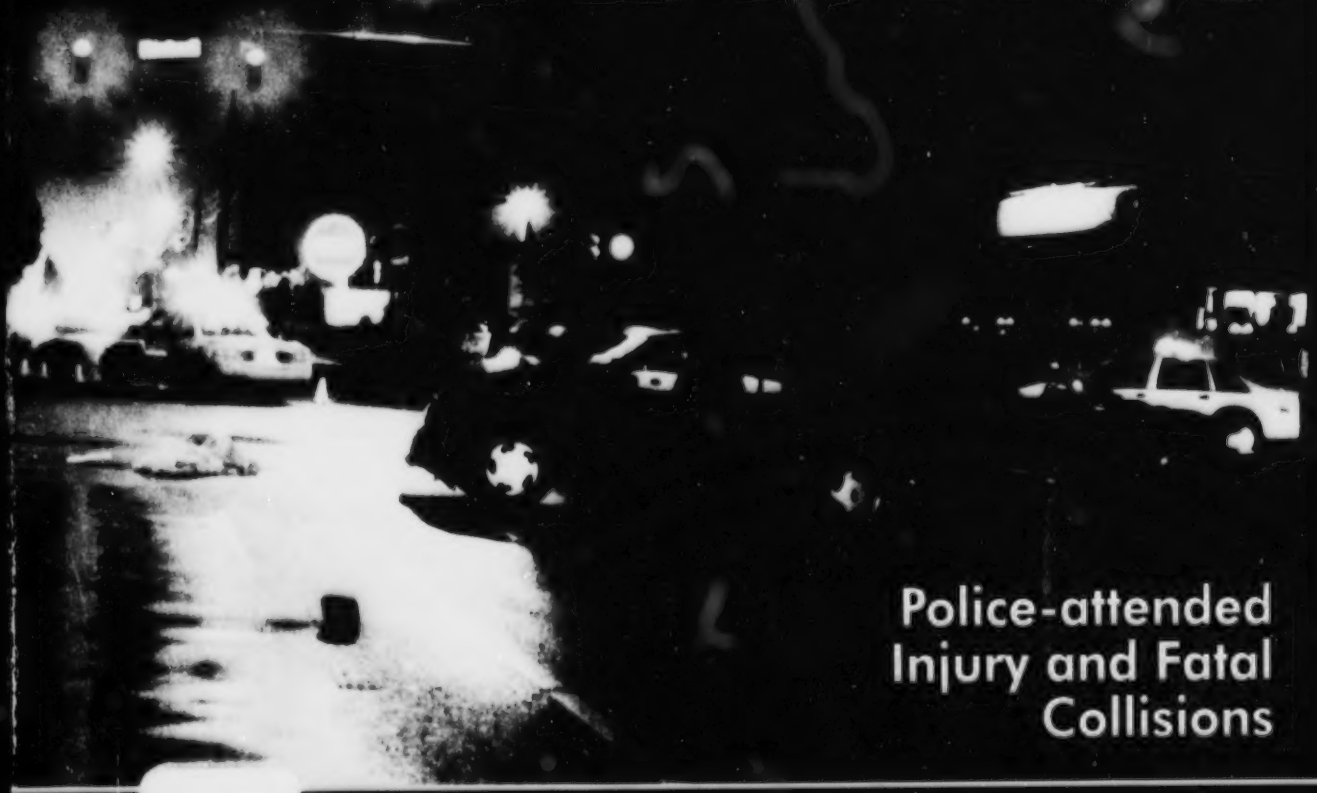
TRAFFIC COLLISION STATISTICS



Police-attended
Injury and Fatal
Collisions

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TRAFFIC COLLISION STATISTICS

Police-attended Injury and Fatal Collisions

British Columbia 1998

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Traffic Accident System

Introduction

Overview

British Columbia's Traffic Accident System compiles and maintains information on all reported traffic collisions occurring in the Province. Traffic collision information is used by the Insurance Corporation of British Columbia (ICBC) and the Ministry of Transportation and Highways to determine collision trends over time and to identify problem factors (e.g., driver, vehicle, environmental); to support road safety programs such as CounterAttack; to evaluate new provincial road safety initiatives; for monitoring of commercial vehicle collision trends and commercial vehicle safety programs; for identification of highway locations which may require improvement; for highway planning; and for guiding the development of new policies and programs to reduce the frequency and severity of collisions in the Province.

Data extracted from the system are also used in planning and research by other provincial government ministries and by the federal government. Municipal engineering departments across the Province rely on traffic collision data to assist in the planning, design and improvement of municipal roads. The Royal Canadian Mounted Police (RCMP) and municipal police forces can use the data to assist in determining law enforcement priorities and locations to target traffic enforcement.

Data Collection and Processing

Motor Vehicle collisions are reportable in British Columbia if they result in personal injury or death or aggregate property damage in excess of $1,000 ($600 for a motorcycle). The damage level thresholds were amended on January 1, 1991 from a previous level of $400. A motorist must report a collision to police within 24 hours of occurrence (48 hours in remote communities).

The Traffic Accident Police Investigation Report (MV6020, formerly known as MV104) is completed by a police officer or employee. When a police officer attends a collision, the report is most often completed at the scene. In many police jurisdictions, the police do not attend all reportable collisions; in the case of unattended collisions, a motorist is required to report the collision to a police station if it meets the injury or aggregate damage criteria. These collision reports are referred to as "unattended" or "self-reports". For a variety of reasons, not all reportable collisions are reported.

Before the merger of the Motor Vehicle Branch and ICBC in November, 1996, the police forwarded completed Traffic Accident Investigation Report forms to the Offices of Motor Vehicle Branch in Victoria. This process continued after the merger, with ICBC assuming responsibility for receiving and processing completed MV104s. The forms are screened and microfilmed and data are entered by ICBC staff into a resident Oracle database. The Traffic Accident System interfaces with the Driver Licensing System. Selected information about a collision is transferred to the Driver Licensing System to be included on an individual's driving record.

In 1996, important changes took place regarding police reporting of collisions. Many police agencies changed their standards or practices for collision reporting. Collisions which were formerly reported may not be reported according to these new standards or practices, thus resulting in fewer reported collisions overall, in particular those involving property damage only or minor injury. Such changes have also made year to year comparisons of annual collision statistics untenable.

This Publication

In order to maintain this report as a reliable source of annual collisions statistics, information provided includes only police-attended personal injury collisions and fatal collisions. The decision to exclude property damage only collisions and unattended collisions was due to the changes in collision reporting standards and practices by the police as well as the lack of accuracy of self reported collisions. As in the last Traffic Collision Statistics Report (1995-97), collision data presented in this report are based on police-reported injury and fatal collisions only.

Important: Numbers presented in this publication represent only those casualty collisions attended and reported by the police. They underestimate the actual numbers of such collisions.

New This Year

Several changes have been introduced to the 1998 Traffic Collision Statistics Report. The most important change is a revised definition of a commercial vehicle as described in Section 15. The definition was revised to be consistent with the definition adopted by Transport Canada. The definition now excludes some types of vehicles (See Section 15 for more details) but adds buses.

Another change to the report is the addition of a new section on emergency vehicles, taxis and school buses. Prior to 1998, emergency vehicles and taxis were considered in the Commercial Vehicle Section. Earlier reports (1995 and before) had a separate section devoted to school buses. Because each of these vehicle use categories is important but does not fit well into existing sections, they were grouped into a separate section this year.

Other changes made this year include the addition of several tables on traffic control devices in Section 8: Environmental Conditions and Collision Context in 1998 and tables on collisions by license class in Section 5: Licensed Drivers, Section 15: Commercial Vehicles and Section 16: Heavy Commercial Vehicles.

IMPORTANT: The totals presented in the Summary Statistics Section are slightly higher than those presented elsewhere in this book. For example, the summary section shows a total of 418 fatalities in 1998, while other sections report a total of 415. The dynamic nature of the database accounts for this discrepancy. There is a time lag between collision occurrence and data entry. Normally this time lag is 30-60 days, but in extreme instances it can be more than one year, due to late receipt of reports. The other sections in this book were completed at an earlier date and represent the number of collisions in the database at the time of data extraction. Totals in the summary section were calculated at a later date, to show the most recent available information. All numbers reported in this publication may be subject to minor change over time.

Acknowledgement

We would like to take this opportunity to thank Delta Police Department for their photographic contributions to this publication. Their assistance was greatly appreciated.

Further Information

We hope that this publication will provide you with the answers you are seeking about collisions in British Columbia. The ultimate goal is to increase public awareness of the importance of safe driving and to contribute to improved traffic safety on British Columbia's highways. Better information leads to better solutions.

If you have questions regarding the contents of this publication, or if you would like to order additional copies, please contact:

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Victoria, British Columbia
V8W 3Y5

Telephone: (250) 414-7923
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Glossary

Air Bag
Inflatable safety device usually stored in vehicle dashboard or steering wheel/column. Upon impact, bag is released and inflated to cushion vehicle occupants and prevent serious injury.

Alcohol Involvement
Any alcohol involvement, suspected or confirmed, e.g., driver had been drinking; odour of liquor.

Artificial Glare
Glare caused by streetlight, headlights, or other man-made light source.

A.T.V.
All Terrain Vehicle: any type of vehicle propelled by motorized power and capable of travel on or off a highway as defined in the HIGHWAY ACT and that is designated as an All Terrain Vehicle by regulation under the ALL TERRAIN VEHICLE ACT.

Bicycle
"Cycle Bi/Tri" 2 or 3 wheeled, pedal driven vehicle.

Child Restraint
Federally approved child safety seat.

Collision
The encounter of a moving vehicle with another moving vehicle or with a fixed object. Reportable in British Columbia when injury or death occurs or when greater than $1,000 aggregate property damage is sustained; in the case of a motorcycle when greater than $600 in damage is sustained; in the case of a cycle, when greater than $25 in damage is sustained.

Comb. Unit Trk/hvy
Combination Unit - Truck/Heavy: truck and trailer unit over 10,900 kg.

Comb. Unit /Trk/lt
Combination Unit - Truck/Light: truck and trailer unit, trailer under 4,600 kg., and total not over 10,900 kg.

Comb. Unit Tractor Tlr
Combination Unit - Tractor Trailer: tractor and semi-trailer unit, over 10,900 kg.

Comb. Unit Trac/tlr & Pup
Combination Unit - Tractor Trailer & Pup: tractor and semi-trailer and pup trailer (pup = 4 wheel trailer).

Commercial Vehicle
A vehicle licensed as such under the COMMERCIAL TRANSPORT ACT and used primarily for commercial/business purposes.

Construction
Road maintenance, and/or construction on roadway which contributes to collision.

Contributing Factor
Those circumstances or events that the attending police officer perceives to directly contribute to a traffic collision.

Crush Cushion
Water or sand filled container placed against abutments, etc., used to absorb vehicle impact and lessen collision severity.

Driver Training Vehicle
Licensed driving school vehicle being used for driver training at time of collision

Emergency Vehicle
Motor vehicle carrying rescue or first aid equipment, whether or not actually responding to an emergency at time of collision.

Farm Vehicle
A vehicle used primarily as an implement of husbandry and licensed as such under the COMMERCIAL TRANSPORT ACT,e.g., farm tractor, combine, thresher.

Fatal Collision
Any motor vehicle or other road vehicle collision occurring on a 'public highway' as defined in the MOTOR VEHICLE ACT which results in fatal injuries to one or more persons and these persons are deceased within 30 days of the collision. A suicide, although not an "accident", is considered a fatal motor vehicle collision, however, a homicide, also not an " accident", is not considered a fatal motor vehicle collision.

General Construction Vehicle
Backhoe, bulldozer, crawler, digger, excavator, forklift, loader, mower, skidder, trencher.

Government Vehicle
Federal; Provincial; Municipal; Regional District: registration indicates government, but does not include emergency vehicles.

Heavy Commercial Vehicle
Single or combination truck unit over 10,900 kg.

Holiday
Time period beginning at 6 pm the evening before a holiday or holiday weekend, and ending at midnight the last day of the holiday or holiday weekend.

Illumination
Man-made lighting in the collision vicinity, e.g., street lighting. This does not refer to temporary illumination which comes from

passing vehicles or from moonlight, even if those may have contributed to the collision.

Impact Attenuator
Refer to "Crash Cushion".

Industrial Road
Any road which is constructed or exists for the transportation of natural resources, raw or manufactured, or the transportation of machinery, materials, or personnel by means of motor vehicle; includes all bridges, wharves, log dumps, and works. Does not include public roads, privately owned roads or roads used solely for construction or maintenance of power lines, etc.

Jack-knifing
Attached vehicle fails to follow path of towing vehicle. Vehicle and trailer turn or rise to 90 degrees or less.

Lighting Conditions
DARK/FULL ILLUMINATION: dark condition but collision area is fully illuminated by artificial light.

DARK/NO ILLUMINATION: complete darkness.

DARK/SOME ILLUMINATION: dark condition but some artificial light exists.

Modified Vehicle
A vehicle which deviates from the manufacturer's specifications.

Moped
Vehicle capable of being operated by pedals and is equipped with a motor under 50 cc (any class driver's licence or special class 6). Moped on flat surface not to exceed 50 km/h under power.

Motor Vehicle
A motorized device in, upon, or by which a person or thing is, or may be transported or drawn upon a highway, except a device designed to be used exclusively upon stationary rails or tracks.

Obstruction/debris
Debris in travelled portion of roadway which contributes to a traffic collision.

Oversize Vehicle
A vehicle more than 12.5 meters in length with width greater than 2.6 meters, and height greater than 4.15 meters.

Off Highway
Private place, field, bush, e.g., All Terrain Vehicles on private road indicated by signs.

Personal Injury Collision
Any motor vehicle or other road vehicle collision occurring on a 'public highway' as defined in the MOTOR VEHICLE ACT which results in injury but not death to one or more persons.

Primary Collision Occurrence
The key event of an collision.

Property Damage Collision
Any motor vehicle or other road vehicle collision occurring on a 'public highway' as defined in the MOTOR VEHICLE ACT in which greater than $1,000 aggregate property damage, or in the case of a motorcycle $600, or in the case of a cycle $25 damage is sustained, but no injury or death occurs.

Public Bus
Any public transportation bus, city transit, or tourist bus.

Recreational Vehicle Use
Vehicle used for personal use outside usual environment, e.g., vacation, sightseeing.

Road Construction Vehicle
Grader, paver, roller.

Safety Equipment
Seatbelts, motorcycle helmets, airbags, child restraints.

School Bus
A motor vehicle used for conveyance of children to and from school by or under contract with the authority in charge of the school.

Sign Obstruction
Temporary sign erected on roadway; sign obstructed by trees, etc.

Single Unit Trk/Hvy
Single Unit Truck/Heavy: single unit truck over 10,900 kg.

Single Unit Trk/lt
Single Unit Truck/Light: single unit truck up to 10,900 kg.

Special Vehicles
Road construction vehicles, general construction vehicles, mobile home in transit, mobile crane.

Victim
A person involved in a motor vehicle or other road vehicle collision who is injured or killed.

Vehicle
A device in, upon, or by which a person or thing is, or may be transported or drawn upon a highway, except a device designed to be moved by human power or used exclusively upon stationary rails or tracks. (Please note, in this publication, bicycles are included with vehicles when a collision involves a bicycle and a motor vehicle)

Yaw
Body of the vehicle is on an exaggerated lean to one side while continuing forward and wheels side slipping while rotating on the surface, forming angular striation on the highway surface.

Summary Statistics & Historical Trends

SECTION 1

Reporting

Police-reported collisions do not include all reportable collisions in the province. This is particularly the case since 1996 when major changes in police-reporting occurred. Police in some municipalities began to attend only collisions of a more serious nature and some discontinued accepting self-reports at the counter. These changes have had a profound impact on the total number of collisions recorded in the BC Traffic Accident Data Base. The number of reported collisions of any type (property damage only, personal injury or fatal) cannot be considered valid after 1995.

These unofficial reporting changes are separate from an official reporting level change which occurred on January 1, 1991. On that date the minimum reporting levels for property damage only traffic collisions were increased from $400 to $1,000 for vehicles, and to $600 for motorcycles. As a result, there were more than 55,000 less property damage only collisions reported in 1991 than in the previous year. Official criteria for personal injury and fatal collision reporting have not changed. To illustrate trends in reporting, this chapter shows all collisions in the database, including property damage only and self-reports. In all other chapters of this book, all tables and graphs refer to police-attended injury and fatal collisions only.

Summary Statistics

Collisions

In 1998, 42,410 traffic collisions were reported.

Fatalities

The total reported number of fatally injured victims was 418.

On average a fatality occurred every 21.0 hours in 1998.

Injuries

The number of people reported injured in 1998 were 29,900.
On average, 81.9 people were reported injured each day in 1998.

Please note: The total number of fatalities and fatal collisions reported for 1996, 1997 and 1998 are underrepresented due to police failing to submit all fatal collision reports. Following efforts by the RCMP and ICBC to restore police reporting of fatal collisions, reporting of fatal collisions improved substantially in 1998, but was still less than 100%. We expect further improvements in 1999. Unfortunately, the number of "missing" fatal collisions for 1996, 1997 and 1998 is unknown. Therefore apparent changes in fatalities from year to year may not correspond to real increases or decreases.

Please note: The numbers presented in this section are based on data extracts performed at a later date than those in other sections in the book. Therefore, there are some small discrepancies regarding the total number of police attended injury and fatal collisions and victims between this section and other sections.

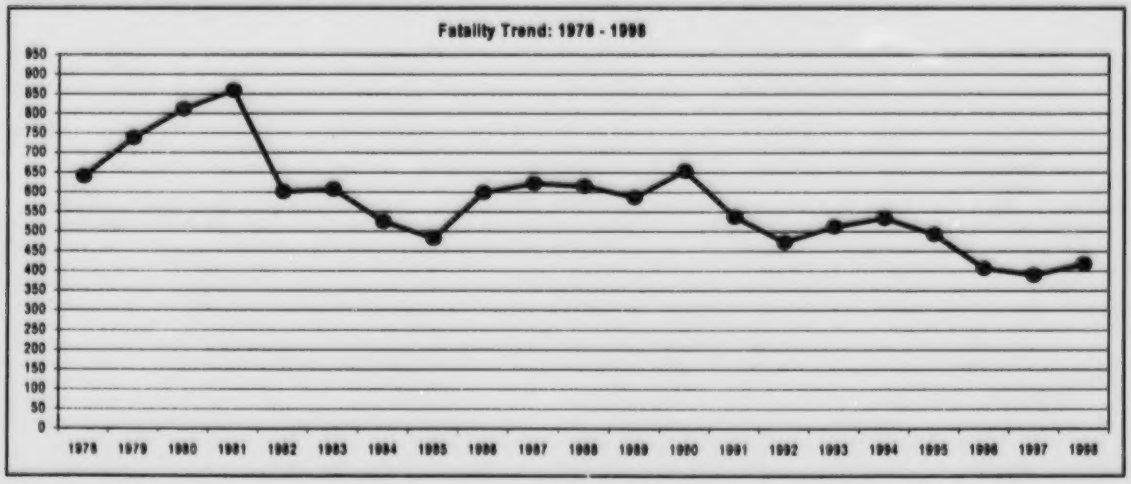
Table 1.01 – Long term traffic collision and casualty statistics

	Collisions				Victims		
Year	Property Damage Only	Injury	Fatal	Total	Injured	Killed	Total
1978	89,177	22,905	553	112,635	33,106	640	33,746
1979	98,936	26,299	628	123,863	37,809	738	38,547
1980	114,199	28,868	710	143,577	41,500	811	42,311
1981*	98,444	30,826	781	127,831	44,123	859	44,982
1982	87,662	23,662	524	111,868	33,807	601	34,408
1983	78,976	22,567	522	102,065	31,855	807	32,462
1984	75,113	22,948	447	98,508	32,407	525	32,932
1985	77,777	24,723	428	102,928	34,368	483	34,851
1986	83,902	28,623	514	113,039	40,378	599	40,977
1987	84,630	29,194	542	114,366	41,291	622	41,913
1988	101,277	30,935	535	132,747	44,181	615	44,778
1989	111,300	33,062	491	144,853	47,471	587	48,058
1990	122,291	35,073	587	157,931	50,589	654	51,223
1991**	88,583	32,975	463	100,001	47,383	537	47,920
1992	82,331	33,328	419	96,078	48,435	473	48,908
1993	80,984	32,393	442	93,819	46,952	512	47,464
1994	83,362	33,337	458	97,157	48,299	534	48,833
1995	80,398	32,681	411	93,490	47,474	493	47,967
1996	47,785	27,148	357	75,288	40,204	407	40,611
1997	26,091	21,084	340	47,495	31,524	390	31,914
1998	22,087	19,948	385	42,410	29,900	418	30,318

* On January 1, 1981, the minimum reporting level for property damage collisions was increased from $200 to $400. This has significantly reduced the number of accidents reported in 1981.

** On January 1, 1991, the minimum reporting level for property damage collisions was increased from $400 to $1,000. This has significantly reduced the number of accidents reported in 1991.

Figure 1.01 – Traffic accident fatality trend: 1978 - 1998



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 1.02 – Ten year collision trend: 1989 - 1998

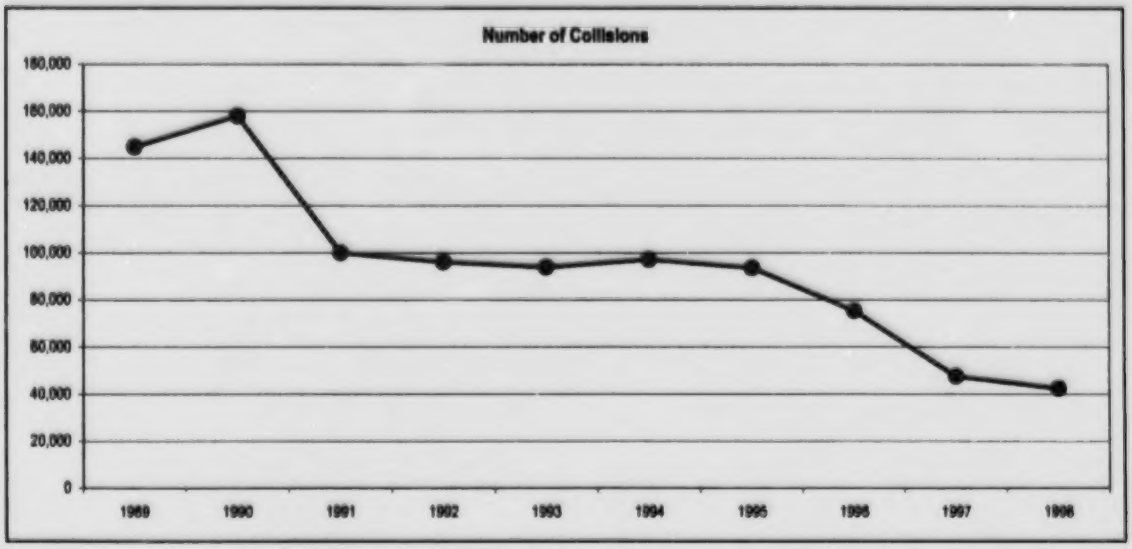


Table 1.02 – Summary statistics: Collisions and victims

					% Change*		
	1995	1996	1997	1998	98 - 95	97 - 96	98 - 97
Collisions							
Property Damage Only	60,396	47,785	26,091	22,097	-20.88%	-45.40%	-15.31%
Injury	32,881	27,146	21,064	19,948	-16.94%	-22.40%	-5.30%
Fatal	411	357	340	365	-13.14%	-4.76%	7.35%
Total Reported Collisions	**93,488**	**75,288**	**47,495**	**42,410**	**-19.47%**	**-36.92%**	**-10.71%**
Victims							
Number of Persons Injured	47,474	40,204	31,524	29,900	-15.31%	-21.58%	-5.15%
Number of Persons Killed	493	407	390	418	-17.44%	-4.18%	7.18%
Total Victims	**47,967**	**40,611**	**31,914**	**30,318**	**-15.34%**	**-21.42%**	**-5.00%**

* The percentage presented here reflects the changes in number of collisions reported by the police, not the actual change in number of collisions occurred.

Table 1.03 – Driver and vehicle statistics: 1984 - 1998

	Drivers Licensed			Vehicles Licensed					
	Male	Female	Total	Passenger Vehicles	Commercial Vehicles	Trailers	Motorcycles	Total	B.C. Population*
1984	1,287,103	977,201	2,244,304	1,469,521	559,153	256,488	81,690	2,366,852	2,945,000
1985	1,303,784	1,016,491	2,320,275	1,511,824	563,955	258,070	79,878	2,413,728	2,974,000
1986	1,299,340	1,027,601	2,326,941	1,571,039	573,978	260,444	77,700	2,483,161	3,004,000
1987	1,332,845	1,064,183	2,397,028	2,293,792	832,611	431,494	142,466	3,700,363	3,050,000
1988	1,349,297	1,092,334	2,441,631	2,450,399	886,176	456,087	147,509	3,940,171	3,115,000
1989	1,405,850	1,150,689	2,556,539	1,740,131	620,301	280,563	60,458	2,701,483	3,198,000
1990	1,443,010	1,193,691	2,636,701	1,803,247	638,043	291,226	58,195	2,790,711	3,291,000
1991	1,507,826	1,256,193	2,764,019	1,857,808	652,730	299,771	56,925	2,867,234	3,373,000
1992	1,567,883	1,310,873	2,878,756	1,904,080	664,682	313,541	56,728	2,939,031	3,470,000
1993	1,567,197	1,338,655	2,905,852	1,930,568	675,132	319,603	53,942	2,979,245	3,571,000
1994	1,630,817	1,380,152	3,010,969	1,988,693	693,809	328,819	53,518	3,044,839	3,681,000
1995	1,684,438	1,431,864	3,116,302	1,988,661	706,402	337,615	52,878	3,083,556	3,784,000
1996	1,743,839	1,486,484	3,230,323	2,010,542	716,117	351,451	52,133	3,130,243	3,882,000
1997	1,806,190	1,547,657	3,353,847	2,065,051	731,051	357,207	54,270	3,207,579	3,961,000
1998	1,855,051	1,599,828	3,454,879	2,090,511	738,460	353,612	55,974	3,238,557	4,002,000

* Estimates, Statistics Canada, 1999.

Table 1.04 – Collisions by police attendance: 1989 – 1998

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Police Attended Collisions										
Property Damage Only	38,251	38,976	24,993	25,510	25,486	27,223	25,576	22,620	17,998	17,481
Injury	23,975	23,864	21,456	22,102	22,431	23,426	22,979	20,857	18,359	17,984
Fatal	491	566	463	418	442	458	411	356	339	365
Total attended collisions	62,717	61,406	46,912	48,030	48,359	51,107	48,966	43,833	36,696	35,830
Police Unattended Collisions										
Property Damage Only	73,049	85,315	41,570	36,821	35,498	36,139	34,822	25,165	8,093	4,616
Injury	9,087	11,209	11,519	11,226	9,982	9,911	9,702	8,289	2,705	1,964
Fatal	0	1	0	1	0	0	0	1	1	0
Total unattended collisions	82,136	96,525	53,089	48,048	45,480	46,050	44,524	31,455	10,799	6,580
Total Fatal Collisions	491	567	463	419	442	458	411	357	340	365
Total Collisions	144,853	157,931	100,001	96,078	93,819	97,157	93,490	75,288	47,495	42,410
Total Victims	48,958	51,223	47,929	48,966	47,484	48,833	47,967	40,811	31,914	30,318

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 1.03 – Property damage collisions only by police attendance

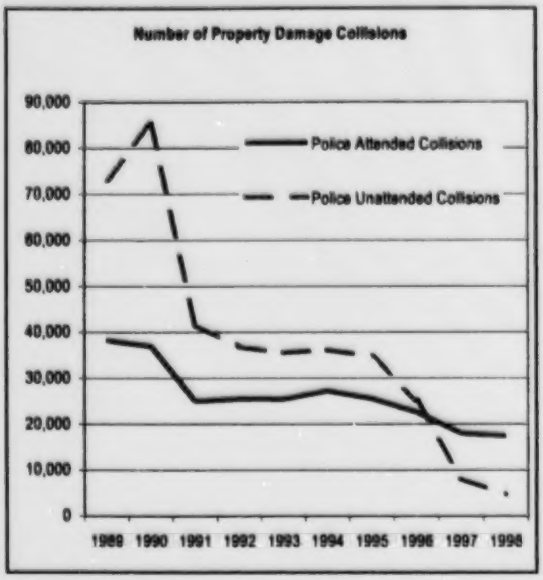


Figure 1.04 – Injury collisions by police attendance

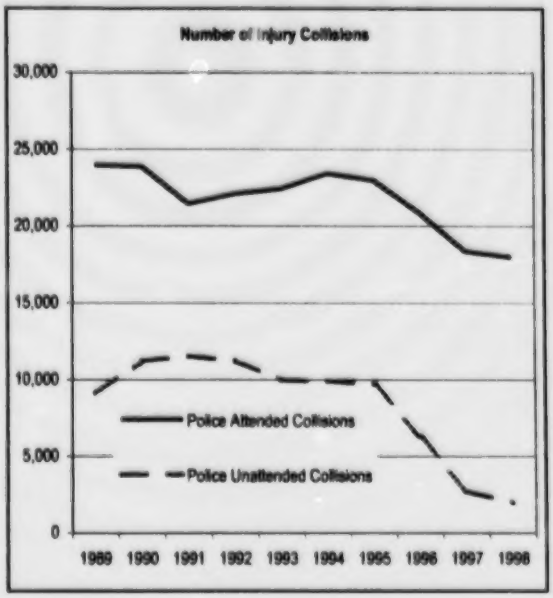
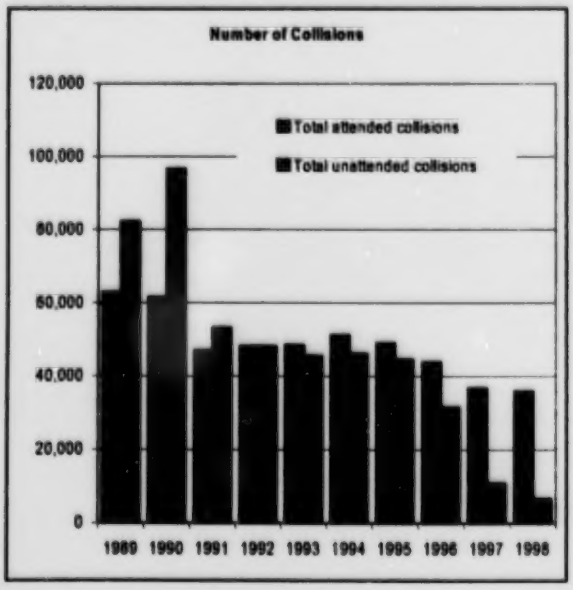


Figure 1.05 – Total number of collisions by police attendance



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Time Of Occurrence in 1998 Collisions

SECTION 2

The highest number of reported casualty collisions (involving injured or killed) occurred in November of 1998. The lowest number of casualty collisions occurred in February of 1998.

The highest casualty (persons injured or killed) rate occurred in August of 1998 (159.5 casualties/100 collisions). The lowest rate occurred in January of 1998.

As in previous years, more casualty collisions happened on Friday than any other day of the week (16.6%). The highest number of fatal collisions occurred on Saturdays in 1998 (21.6% of all fatal collisions).

Also similar to the pattern in previous years, the greatest number of personal injury collisions occurred between the hours of 4 pm and 5 pm in 1998 (7.7% of all personal injury collisions).

The greatest number of reported fatal collisions happened between 2 pm and 3 pm in 1998 (8% of all fatal collisions). Notably, 82 of the 362 fatal collisions (or 22.7%) occurred between the hours of 3pm and 7 pm (i.e. the evening rush hour).

Table 2.01 – Collisions and victims by month

	Collisions				Victims			
Month	**Injury**	**Fatal**	**Total**	**% of Total**	**Injured**	**Killed**	**Total**	**% of Total**
January	1,343	24	1,367	7.45	1,955	29	1,984	7.15
February	1,086	18	1,104	6.02	1,665	20	1,685	6.07
March	1,380	31	1,411	7.69	2,104	35	2,139	7.70
April	1,355	31	1,386	7.56	2,029	35	2,064	7.43
May	1,497	33	1,530	8.34	2,368	39	2,407	8.67
June	1,433	25	1,458	7.95	2,124	34	2,158	7.77
July	1,662	36	1,698	9.26	2,652	39	2,691	9.69
August	1,634	42	1,676	9.14	2,630	44	2,674	9.63
September	1,510	36	1,546	8.43	2,203	42	2,245	8.09
October	1,642	30	1,672	9.12	2,513	34	2,547	9.17
November	1,781	18	1,799	9.81	2,650	20	2,670	9.62
December	1,658	38	1,696	9.25	2,459	44	2,503	9.01
Total	**17,981**	**362**	**18,343**	**100%**	**27,352**	**415**	**27,767**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 2.01 – Distribution of collisions and victims by month

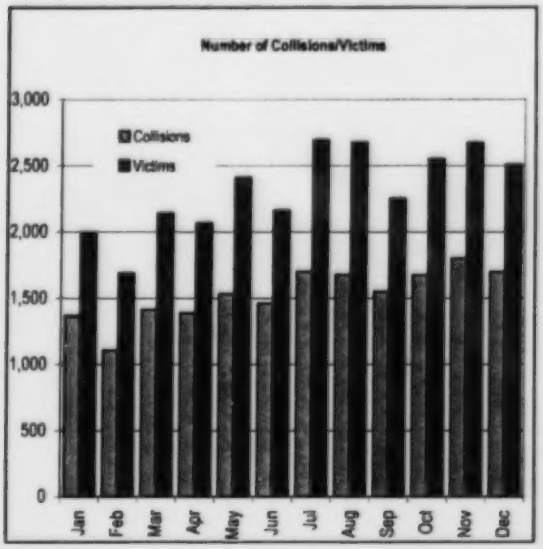


Figure 2.02 Distribution of collisions and victims by day of week

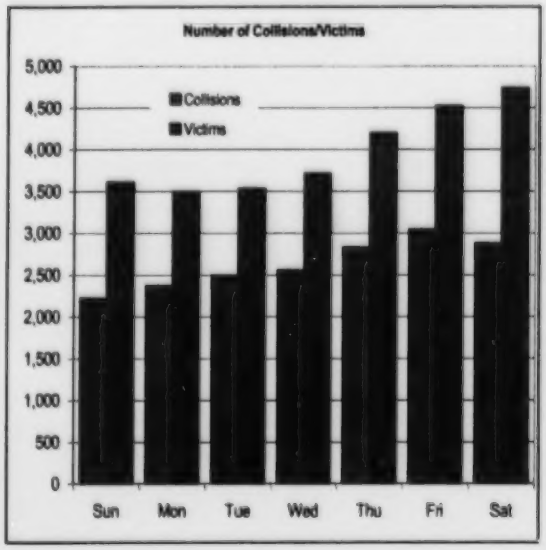


Table 2.02 – Collision type and victims by day of week

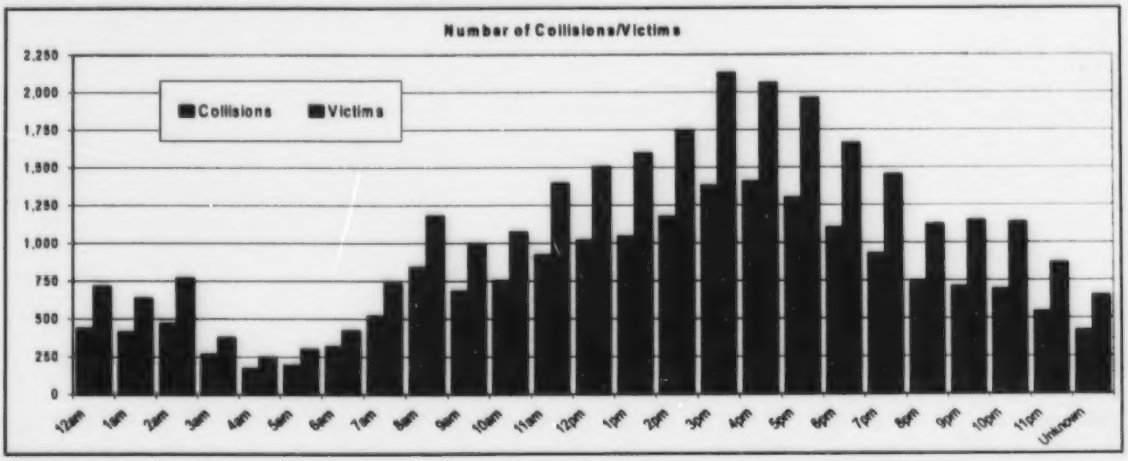
	Collisions			Victims		
Day of Week	Injury	Fatal	Total	Injured	Killed	Total Victims
Sunday	2,159	61	2,220	3,534	69	3,603
Monday	2,330	37	2,367	3,448	39	3,487
Tuesday	2,429	44	2,473	3,473	53	3,526
Wednesday	2,519	31	2,550	3,673	37	3,710
Thursday	2,775	48	2,823	4,146	48	4,194
Friday	2,976	63	3,039	4,436	78	4,514
Saturday	2,793	78	2,871	4,642	91	4,733
Total	**17,981**	**362**	**18,343**	**27,352**	**415**	**27,767**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 2.03 – Injury and fatal collisions and victims by hour

	Collisions			Victims		
Time	Injury	Fatal	Total	Injured	Killed	Total
0000-0059	419	15	434	696	15	711
0100-0159	394	15	409	617	16	633
0200-0259	448	19	467	746	20	766
0300-0359	255	7	262	364	9	373
0400-0459	164	5	169	234	6	240
0500-0559	184	7	191	290	8	298
0600-0659	306	8	314	410	8	418
0700-0759	501	15	516	710	17	727
0800-0859	828	10	838	1,185	14	1,179
0900-0959	669	12	681	971	13	984
1000-1059	740	8	748	1,060	8	1,068
1100-1159	907	12	919	1,382	12	1,394
1200-1259	1,006	10	1,016	1,490	12	1,502
1300-1359	1,020	20	1,040	1,567	24	1,591
1400-1459	1,142	29	1,171	1,710	33	1,743
1500-1559	1,350	26	1,376	2,099	28	2,127
1600-1659	1,388	14	1,402	2,039	18	2,057
1700-1759	1,270	24	1,294	1,929	27	1,956
1800-1859	1,077	18	1,095	1,638	18	1,656
1900-1959	906	17	923	1,425	22	1,447
2000-2059	714	16	730	1,099	19	1,118
2100-2159	685	21	706	1,115	26	1,141
2200-2259	667	22	689	1,103	28	1,131
2300-2359	526	12	538	847	14	861
Unknown	415	0	415	646	0	646
Total	**17,981**	**362**	**18,343**	**27,352**	**415**	**27,767**

Figure 2.03 – Distribution of collisions and victims by collision hour



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 2.04 – Victims in 1998 holiday collisions

Holiday Period	Injured	Killed	Total
Easter (April 9 to April 12)	283	7	290
Victoria Day (May 15 to May 18)	261	3	264
Canada Day (June 30 to July 1)	92	5	97
B.C. Day (July 31 to August 3)	299	5	304
Labour Day (September 4 to September 7)	208	10	218
Thanksgiving (October 9 to October 12)	300	2	302
Remembrance Day (November 10 to November 11)	79	0	79
Christmas (December 24 to December 28)	269	7	276
New Years 97/98 (December 31 to January 3)	210	5	215
Total	**2,001**	**44**	**2,045**

Note: Holiday periods are calculated from 6:00pm of the first day to 24:00pm of the last day. For example, Easter holiday period was calculated starting from 6:00pm on April 9 to 24:00pm on April 12. Holiday may occur on a weekend one year but not on a weekend in other years. This will affect year to year comparisons.

Contributing Factors In 1998 Collisions

SECTION 3

The BC Traffic Accident Database recognizes that a collision is often the result of an interaction of events or situations. Contributing factors are those circumstances or events that the attending police officer perceives to directly contribute to a traffic collision. The Traffic Accident Police Investigation Report permits up to three contributing factors to be attributed to *each* driver or pedestrian involved in a collision.

Reporting Procedure Changes

The procedure for reporting on contributing factors was revised in 1994. Prior to 1994 this publication reported only on the first or 'major' contributing factors assigned to the involved drivers. In this document *all* contributing factors assigned to drivers are reflected in the presentation of the data. For example, a collision could result from a combination of alcohol impairment, unsafe speed and road conditions. The contributing factors of unsafe speed and road conditions are included in the data analyses, along with the 'first' contributing factor of alcohol involvement. This represents the complete information available from the Traffic Accident Database on the role of contributing factors in collisions. Due to this change in procedure, the data concerning contributing factors presented in this publication cannot be easily compared with previous versions (1993 and earlier).

In addition to the tables that consider *factors*, tables that display the same data in terms of *collisions* are presented. These tables display the number of collisions in which a contributing factor was present and not the total number of occurrences of that factor. For example, the contributing factor 'Driving without due care' was recorded in 5,679 collisions (Table 3.06), however, there were 5,847 occurrences of 'Driving without due care' in the database (Table 3.03). In other words, 5,847 *drivers* involved in collisions were noted as having been 'Driving without care', however, those same 5,847 drivers were involved in 5,679 *collisions*.

Contributing Factors Summary

In 1998, 29,385 contributing factors were attributed to 18,343 reported casualty collisions.

Of all contributing factors assigned to collisions during 1998, 85.2% involved human action or condition; 13.1% were related to environmental conditions; 1.7% involved vehicle condition.

The top five most frequently reported contributing factors in 1998 personal injury collisions (as a percentage of total personal injury collisions) were, in order of magnitude:

(1) Driving without due care (30.9%);
(2) Failing to yield to the right of way (22.2%);
(3) Unsafe speed (16.3%);
(4) Alcohol involvement (11.9%);
(5) Following too closely (10.9%).

The top five most frequently reported contributing factors in 1998 fatal collisions (as a percentage of total fatal collisions) were, in order of magnitude:

(1) Driving without due care (35.1%);
(2) Unsafe speed (33.4%);
(3) Alcohol involvement (28.7%);
(4) Failing to yield to the right of way (9.4%);
(5) Weather condition (9.1%).

Table 3.01 – Frequency of contributing factors* in collisions by category

Contributing Factor Category	Injury	Fatal	Total Factors	% of Total Factors
Human Action	19,632	385	20,017	68.28
Human Condition	4,800	158	4,958	16.91
Environmental Condition	3,764	74	3,838	13.09
Vehicle Factor	492	10	502	1.71
Total	**28,688**	**627**	**29,315**	**100%**

* There were 29,315 contributing factors attributed to 18,343 casualty collisions in 1998. These numbers are only for police-attended collisions. 'Frequency' represents the total number of occurrences of the contributing factors, not the number of collisions in which the contributing factors were present.

Figure 3.02 – Top five human action contributing factors in 1998 collisions

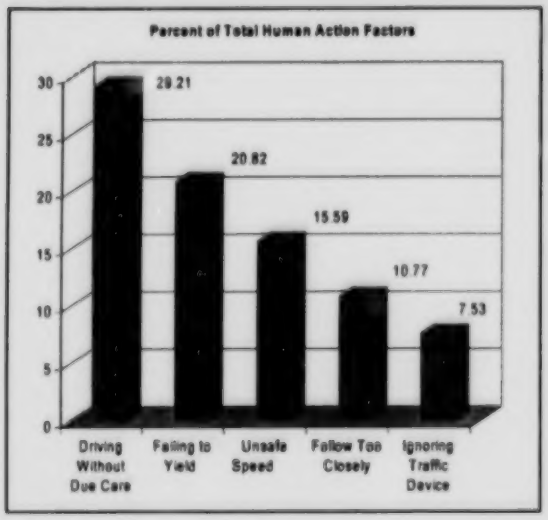


Figure 3.01 – Top five human condition contributing factors in 1998 collisions

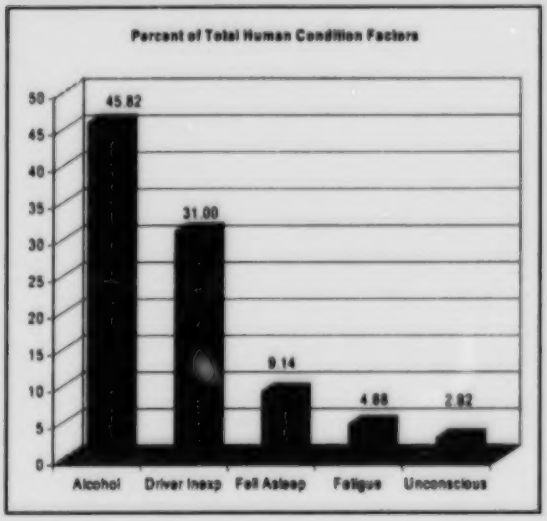


Table 3.02 – Frequency of human condition factors in injury and fatal collisions*

Human Condition Factor	Injury	Fatal	Total	% of Human Condition Factor	% of All Factors**
Alcohol Involvement	2,166	106	2,272	45.82	7.75
Driver Inexperience	1,517	20	1,537	31.00	5.24
Fell Asleep	441	12	453	9.14	1.55
					0.00
Extreme Fatigue	229	3	232	4.68	0.79
Unconscious	138	2	140	2.82	0.48
Illness	135	2	137	2.76	0.47
					0.00
Drugs (illegal)	95	9	104	2.10	0.35
Medication	40	2	42	0.85	0.14
Physical Disability	39	2	41	0.83	0.14
Total	**4,800**	**158**	**4,958**	**100%**	**16.91%**

* There were 29,315 contributing factors attributed to 18,343 casualty collisions in 1998. These numbers are only for police-attended collisions. 'Frequency' represents the total number of occurrences of the contributing factors, not the number of collisions in which the contributing factors were present.

** "All factors" refers to all four categories of contributing factors (see Table 3.01). In other words, "Percent of All Factors" shows the percentage each "Human Condition Factor" accounted for across all four categories of contributing factors.

Table 3.03 – Frequency of human action factors in injury and fatal collisions*

Human Action Factors	Injury	Fatal	Total	% of Human Action Factors	% of all Factors**
Driving Without Due Care	5,720	127	5,847	29.21	19.95
Failing To Yield to Right Of Way	4,134	34	4,168	20.82	14.22
Unsafe Speed	3,000	121	3,121	15.59	10.65
Following Too Closely	2,154	1	2,155	10.77	7.35
Ignoring Traffic Control Device	1,488	20	1,508	7.53	5.14
Improper Turning	820	9	829	4.14	2.83
Pedestrian Error/Confusion	479	14	493	2.46	1.68
Driving on Wrong Side of Road	454	26	480	2.40	1.64
Avoiding veh/ped/cycle	367	9	376	1.88	1.28
Improper Passing	339	8	347	1.73	1.18
Cutting In	301	3	304	1.52	1.04
Backing Unsafely	199	3	202	1.01	0.69
Failing to Signal	83	0	83	0.41	0.28
Ignoring Officer/Flagman/Guard	43	0	43	0.21	0.15
No Driver	35	7	42	0.21	0.14
Suicide Attempt	16	3	19	0.09	0.06
Total	**19,632**	**385**	**20,017**	**100%**	**68.28%**

* There were 29,315 contributing factors attributed to 18,343 casualty collisions in 1998. These numbers are only for police-attended collisions. 'Frequency' represents the total number of occurrences of the contributing factors, not the number of collisions in which the contributing factors were present.

** "All factors" refers to all four categories of contributing factors (see Table 3.01). In other words, "Percent of All Factors" shows the percentage each "Human Condition Factor" accounted for across all four categories of contributing factors.

Table 3.04 – Frequency of environmental factors* in injury and fatal collisions

Environmental Factors	Injury	Fatal	Total	% of Environmental Factors	% of all Factors **
Weather Condition	2,125	38	2,163	56.36	7.38
Visibility Impaired	411	10	421	10.97	1.44
Wild Animal	261	2	263	6.85	0.90
Sunlight Glare	216	3	219	5.71	0.75
Road Maintenance/Construction	129	11	140	3.65	0.48
Road/Intersection Design	130	2	132	3.44	0.45
Obstruction/Debris on Road	119	2	121	3.15	0.41
Previous Traffic Collision	92	4	96	2.50	0.33
Domestic Animal	84	0	84	2.19	0.29
Insufficient Traffic Control	67	0	67	1.75	0.23
Pavement Condition	56	2	58	1.51	0.20
Roadside Hazard	39	0	39	1.02	0.13
Artificial Glare	26	0	26	0.68	0.09
Sign Obstruction	9	0	9	0.23	0.03
Total	**3,784**	**74**	**3,838**	**100%**	**13.09%**

* There were 29,315 contributing factors attributed to 18,343 casualty collisions in 1998. These numbers are only for police-attended collisions. 'Frequency' represents the total number of occurrences of the contributing factors, not the number of collisions in which the contributing factors were present.

** "All factors" refers to all four categories of contributing factors (see Table 3.01). In other words, "Percent of All Factors" shows the percentage each "Human Condition Factor" accounted for across all four categories of contributing factors.

Figure 3.03 – Top five environmental factors in 1998 collisions

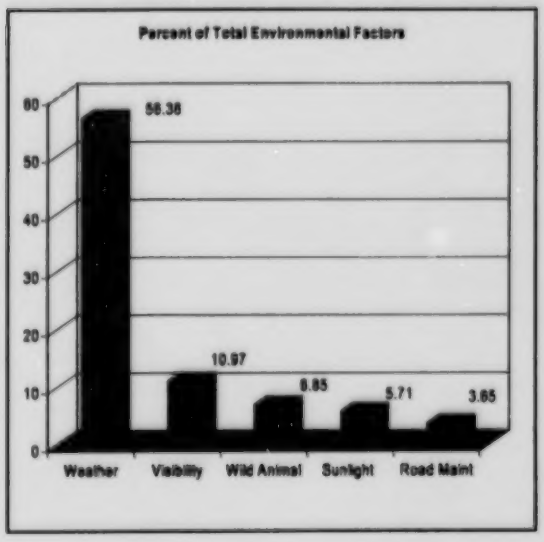


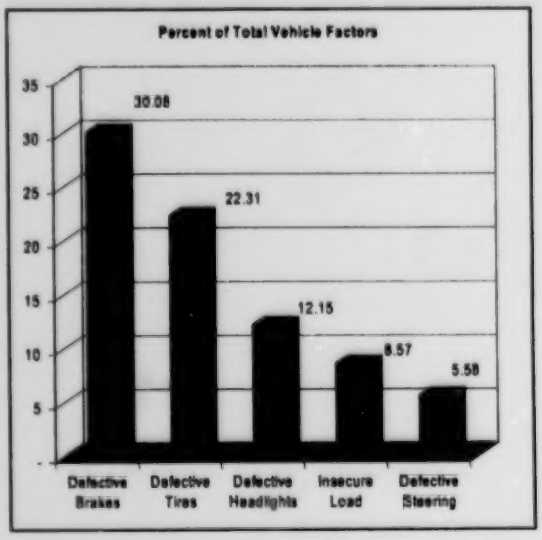
Table 3.05 – Frequency of vehicle factors* in injury and fatal collisions

Vehicle Condition Factors	Injury	Fatal	Total	% of Vehicle Factors	% of all Factors**
Defective Brakes	148	3	151	30.08	0.52
Defective Tires	110	2	112	22.31	0.38
Defective Headlights	59	2	61	12.15	0.21
Insecure Load	42	1	43	8.57	0.15
Defective Steering	27	1	28	5.58	0.10
Defective Engine	23	0	23	4.58	0.08
Defective Alternator	17	0	17	3.39	0.06
Oversize Vehicle	14	1	15	2.99	0.05
Defective Brakelights	13	0	13	2.59	0.04
Defective Turn Signals	11	0	11	2.19	0.04
Defective Suspension	11	0	11	2.19	0.04
Defective Tow Hitch	6	0	6	1.20	0.02
Vehicle Modification	5	0	5	1.00	0.02
Defective Windshield	3	0	3	0.60	0.01
Restraint System	3	0	3	0.60	0.01
Total	482	10	502	100%	1.71%

* There were 29,315 contributing factors attributed to 18,343 casualty collisions in 1998. These numbers are only for police-attended collisions. 'Frequency' represents the total number of occurrences of the contributing factors, not the number of collisions in which the contributing factors were present.

** "All factors" refers to all four categories of contributing factors (see Table 3.01). In other words, "Percent of All Factors" shows the percentage each "Human Condition Factor" accounted for across all four categories of contributing factors.

Figure 3.04 – Top five vehicle condition factors in 1998 collisions



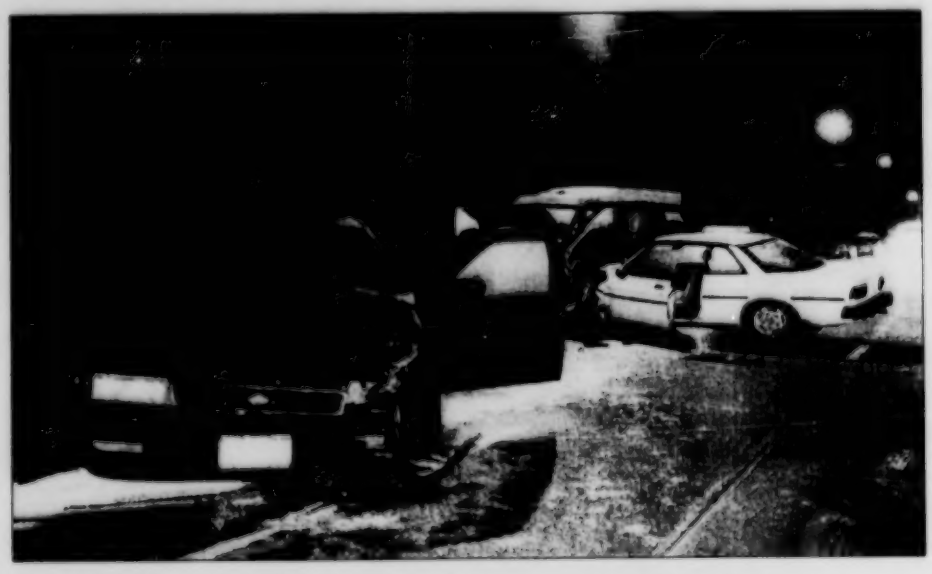


Table 3.06 – Contributing factors in 1998 collisions in order of magnitude: By number of collisions*

Contributing Factors	Injury	Fatal	Total	% of Total Collisions
Driving Without Due Care	5,552	127	5,679	30.96
Failing to Yield to Right of Way	3,995	34	4,029	21.96
Unsafe Speed	2,938	121	3,059	16.68
Alcohol Involvement	2,141	104	2,245	12.24
Following too Closely	1,959	1	1,960	10.69
Weather Condition	1,800	33	1,833	9.99
Driver Inexperience	1,474	20	1,494	8.14
Ignoring Traffic Control Device	1,442	18	1,460	7.96
Improper Turning	811	9	820	4.47
Driving on Wrong Side of Road	449	25	474	2.58
Pedestrian Error/Confusion	447	13	460	2.51
Fell Asleep	440	12	452	2.46
Visiblity Impaired	358	10	368	2.01
Avoiding veh/ped/cycle	337	8	345	1.88
Improper Passing	336	8	344	1.88
Cutting In	298	3	301	1.64
Wild Animal	254	2	256	1.40
Extreme Fatigue	229	3	232	1.26
Sunlight Glare	208	3	211	1.15
Other	7,357	139	7,496	40.87
Unknown	2,781	28	2,809	15.31

* "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a two vehicle fatal collision involving a driver traveling at unsafe speed and a second driver operating under the influence of alcohol will be counted above as both a fatal unsafe speed related collision, and as a fatal alcohol related collision. 'Percent of Total' represen occurrence of the collisions as a percentage of total police-attended casualty collisions (i.e. 18,343) recorded in British Columbia during 1998. Due to multiple occurrences of factors in a single accident, 'Percent of Total Collisions' does not add up to 100.

** "Other" includes collisions with less than 200 occurrences.

Figure 3.05 – Top ten contributing factors in 1998 collisions by percentage of total collisions

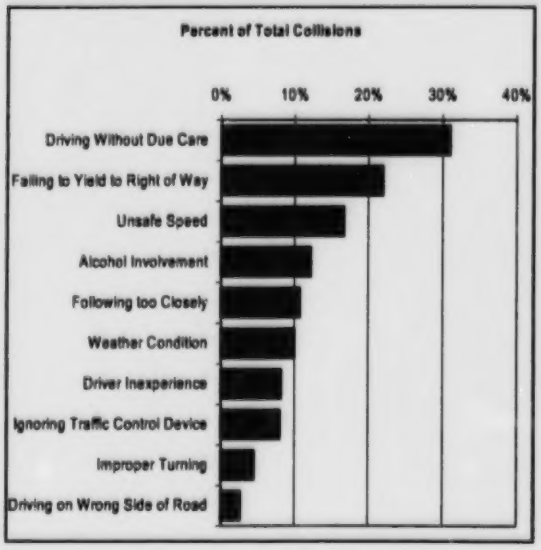


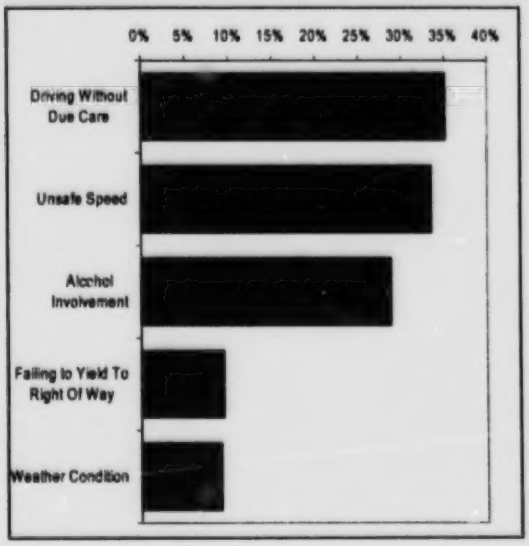
Table 3.07 – Contributing factors in 1998 fatal collisions in order of magnitude: By number of collisions*

Contributing Factors	Fatal	% of Total Fatal Collisions
Driving Without Due Care	127	35.08
Unsafe Speed	121	33.43
Alcohol Involvement	104	28.73
Failing to Yield To Right Of Way	34	9.39
Weather Condition	33	9.12
Driving On the Wrong Side Of Road	25	6.91
Driver Inexperience	20	5.52
Ignoring Traffic Control Device	18	4.97
Pedestrian Error	13	3.59
Fell Asleep	12	3.31
Visibility Impaired	10	2.76
Drugs (Illegal)	9	2.49
Improper Turning	9	2.49
Road Maintenance/Construction	9	2.49
Improper Passing	8	2.21
Avoid veh/ped/cycle	8	2.21
No Driver	7	1.93
Other**	126	34.81

* "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a two vehicle fatal collision involving a driver traveling at unsafe speed and a second driver operating under the influence of alcohol will be counted above as both a fatal unsafe speed related collision, and as a fatal alcohol related collision. 'Percent of Total' represents the occurrence of the collisions as a percentage of total police-attended fatal collisions (i.e. 362) recorded in British Columbia during 1998. Due to multiple occurrences of factors in a single accident, 'Percent of Total Fatal Collisions' does not add up to 100.

** 'Other' includes collisions with less than 5 occurrences.

Figure 3.06 – Top five contributing factors in 1998 fatal collisions by percentage of total fatal collisions



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Victims In 1998 Collisions

SECTION 4

In 1998, the number of persons killed in police-reported traffic collisions in British Columbia was 415 and the number of persons injured in police attended reported collisions was 27,352.

Male victims made up 53.5% of all casualties (persons injured or killed), females made up 46.0% and 0.5% were unidentified as to gender. This ratio remained about the same over last several years.

Of all fatally injured victims in 1998, 68.8% were male (285 victims), and 30.6% (127 victims) were female.

The distribution of fatal victims among the various road user class categories in 1998 is as follows:

Drivers (48.0%)
Passengers (26.3%)
Pedestrians (14.7%)
Motorcycle Drivers (6.5%)
Bicycle drivers (2.4%)
Hanging on (0.2%)
Unknown/Other (1.9%)

Of all persons reported injured in 1998, 18.2% were between the ages of 16 and 20, and 12.5% were between the ages of 21 and 25. The proportion of victims aged six to 15 was 6.2%.

Of all persons killed in 1998, 13.7% were between the ages of 16 and 20, 13.5% were between the ages of 21 and 25. The proportion of victims aged six to 15 was 4.6%.

The number of children killed aged five and under was 1.2%.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 4.01 – Victims injured by road user class by month in 1998

Month	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Bicycle Passenger	Motorcycle Driver	Motorcycle Passenger	Other	Unknown	Total Victims	% of Total
January	1,131	604	4	172	30	0	8	0	8	2	1,955	7.15
February	928	526	4	147	40	1	13	0	4	0	1,665	6.09
March	1,173	664	4	147	68	1	28	3	16	0	2,104	7.69
April	1,094	633	6	139	83	0	48	3	16	7	2,029	7.42
May	1,278	748	4	129	93	1	77	14	22	2	2,368	8.66
June	1,089	677	4	109	112	1	104	13	11	4	2,124	7.77
July	1,336	928	9	123	123	0	97	18	14	4	2,652	9.70
August	1,302	946	4	111	114	2	116	23	12	0	2,630	9.62
September	1,145	659	4	160	127	0	82	9	13	4	2,203	8.05
October	1,439	804	4	142	78	0	31	2	12	1	2,513	9.19
November	1,513	830	3	212	54	0	20	2	10	6	2,650	9.69
December	1,389	822	2	196	47	0	8	0	13	2	2,459	8.99
Total	**14,797**	**8,843**	**52**	**1,787**	**969**	**6**	**630**	**87**	**149**	**32**	**27,352**	**100%**

Note: Prior to 1991, hanging on victims were included in the passenger category.

Figure 4.01 Classification of Injured Victims by Road User Class – 1998

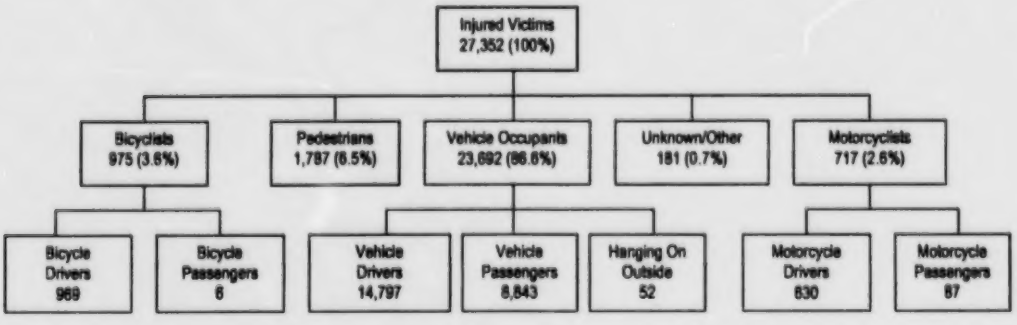


Table 4.02 – Victims killed by road user class by month in 1998

Month	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Motorcycle Driver	Other	Unknown	Total Victims	% of Total
January	15	11	0	2	0	0	1	0	29	6.99
February	9	9	0	2	0	0	0	0	20	4.82
March	16	8	0	8	0	2	1	0	35	8.43
April	13	11	0	7	2	2	0	0	35	8.43
May	18	12	0	3	2	4	0	0	39	9.40
June	15	14	1	4	0	0	0	0	34	8.19
July	16	10	0	9	0	3	1	0	39	9.40
August	24	7	0	3	2	8	0	0	44	10.60
September	19	10	0	7	1	3	1	1	42	10.12
October	18	7	0	3	1	4	0	1	34	8.19
November	9	4	0	6	0	1	0	0	20	4.82
December	27	8	0	7	2	0	1	1	44	10.60
Total	199	109	1	61	10	27	5	3	415	100%

Note: Prior to 1991, hanging on victims were included in the passenger category.

Figure 4.02 Classification of Killed by Road User Class – 1998

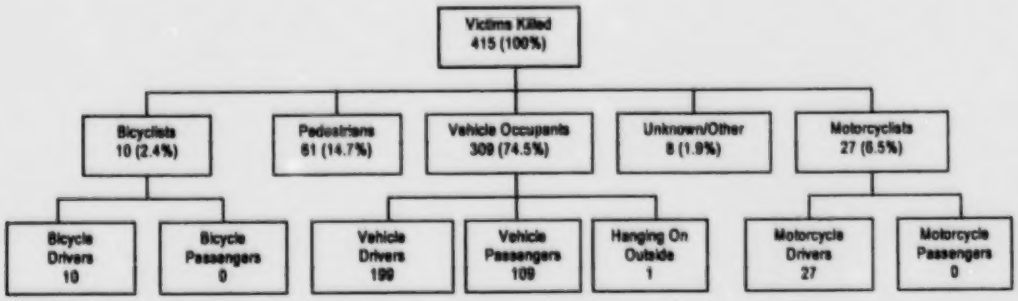


Table 4.03 – Victims injured by road user class by age in 1998

Victim Age	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Bicycle Passenger	Motorcycle Driver	Motorcycle Passenger	Other	Unknown	Total Victims	% of Total
1	0	66	0	8	0	0	0	0	2	0	76	0.28
2	0	53	0	8	0	1	0	0	2	0	64	0.23
3	0	81	0	8	1	0	0	0	1	0	91	0.33
4	1	83	0	9	2	1	0	0	2	0	98	0.36
5	0	87	0	18	8	0	0	1	4	0	116	0.42
6	0	90	0	17	5	0	0	0	0	0	112	0.41
7	1	88	0	16	13	1	0	0	2	0	123	0.45
8	0	85	0	11	13	0	0	1	0	0	110	0.40
9	0	85	0	23	23	0	0	0	1	1	133	0.49
10	0	118	0	26	26	0	1	1	1	0	173	0.63
11	1	88	0	16	31	0	0	1	1	0	138	0.50
12	0	78	1	29	27	0	1	2	0	0	138	0.50
13	6	96	0	38	27	0	0	2	5	0	174	0.64
14	8	159	0	40	30	2	1	0	4	1	245	0.90
15	19	271	0	36	16	1	2	1	1	0	347	1.27
16	380	440	0	34	30	0	4	2	6	1	897	3.28
17	488	485	3	32	19	0	6	0	10	0	1,043	3.81
18	567	406	0	38	18	0	14	1	5	0	1,049	3.84
19	612	402	2	35	20	0	20	2	5	1	1,099	4.02
20	495	302	1	31	26	0	23	1	4	1	884	3.23
21	478	258	4	40	22	0	20	6	3	0	831	3.04
22	438	233	4	34	19	0	30	4	4	2	768	2.81
23	364	184	0	31	21	0	14	2	2	1	619	2.26
24	368	159	1	35	21	0	18	0	3	0	605	2.21
25	387	151	3	24	30	0	27	1	2	0	605	2.21
26-30	1787	635	5	153	117	0	100	7	13	4	2,801	10.24
31-35	1590	506	2	133	92	0	88	6	7	1	2,423	8.86
36-40	1646	447	3	132	92	0	59	7	6	0	2,392	8.75
41-45	1358	325	7	117	62	0	79	14	4	0	1,964	7.18
46-50	1027	322	1	111	46	0	52	6	2	2	1,569	5.74
51-55	858	238	0	82	34	0	38	0	2	0	1,232	4.50
56-60	548	232	2	83	16	0	9	1	3	2	876	3.20
61-65	391	162	3	49	17	0	6	2	2	1	633	2.31
66-70	291	137	1	57	4	0	6	0	2	1	499	1.82
71-75	281	122	2	50	2	0	6	0	0	2	465	1.70
76-80	209	97	2	41	6	0	1	0	3	2	361	1.32
81-85	113	52	0	33	1	0	2	0	0	1	202	0.74
86-90	30	25	0	17	1	0	0	0	0	1	74	0.27
91-95	2	4	0	4	0	0	0	0	1	0	11	0.04
95+	0	3	0	2	0	0	0	0	0	0	5	0.02
Unknown	95	988	5	124	33	0	5	16	34	7	1,307	4.78
Total	**14,797**	**8,843**	**52**	**1,787**	**969**	**6**	**630**	**87**	**149**	**32**	**27,352**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

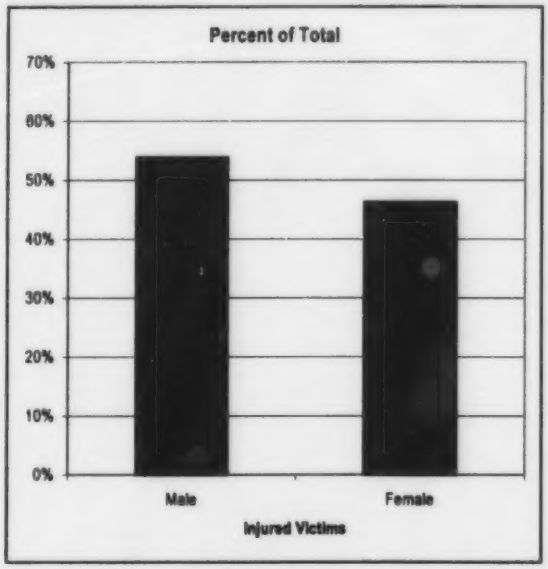
Table 4.04 – Victims killed by road user class by age in 1998

Victim Age	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Motorcycle Driver	Other	Unknown	Total Victims	% of Total
2	0	0	0	1	0	0	0	0	1	0.24
4	0	3	0	0	0	0	0	0	3	0.72
5	0	0	0	1	0	0	0	0	1	0.24
6	0	1	0	0	1	0	0	0	2	0.48
7	0	1	0	0	0	0	0	0	1	0.24
9	0	1	0	1	0	0	1	0	3	0.72
10	0	1	0	0	0	0	0	0	1	0.24
12	0	0	0	0	1	0	0	0	1	0.24
13	0	0	0	0	0	1	0	0	1	0.24
14	1	3	0	1	0	0	0	0	5	1.20
15	1	4	0	0	0	0	0	0	5	1.20
16	3	3	0	0	0	0	0	0	6	1.45
17	5	7	0	1	0	0	0	0	13	3.13
18	7	2	0	1	1	0	0	0	11	2.65
19	7	4	0	2	0	0	0	0	13	3.13
20	7	3	0	1	0	0	2	1	14	3.37
21	6	6	0	2	0	1	0	0	15	3.61
22	4	2	0	0	0	1	0	0	7	1.69
23	3	1	1	1	0	0	0	0	6	1.45
24	5	4	0	1	1	3	0	0	14	3.37
25	5	6	0	0	0	2	1	0	14	3.37
26-30	18	8	0	2	1	6	1	0	36	8.67
31-35	25	3	0	4	1	4	0	0	37	8.92
36-40	23	3	0	3	0	2	0	1	32	7.71
41-45	13	4	0	1	1	3	0	1	23	5.54
46-50	8	5	0	9	0	2	0	0	24	5.78
51-55	11	4	0	4	0	0	0	0	19	4.58
56-60	3	3	0	0	0	1	0	0	7	1.69
61-65	6	1	0	2	1	0	0	0	10	2.41
66-70	10	3	0	3	1	1	0	0	18	4.34
71-75	10	5	0	7	0	0	0	0	22	5.30
76-80	6	6	0	5	0	0	0	0	17	4.10
81-85	7	7	0	2	0	0	0	0	16	3.86
86-90	2	3	0	5	0	0	0	0	10	2.41
91-95	1	0	0	1	0	0	0	0	2	0.48
Unknown	2	2	0	0	1	0	0	0	5	1.20
Total	**199**	**169**	**1**	**81**	**10**	**27**	**5**	**3**	**415**	**100%**

Table 4.05 – Victims injured by age and gender

Victim Age	Male	Female	Unknown	Total
1	43	32	1	76
2	33	31	0	64
3	47	44	0	91
4	56	42	0	98
5	61	55	0	116
6	55	57	0	112
7	67	56	0	123
8	65	45	0	110
9	65	68	0	133
10	85	88	0	173
11	85	53	0	138
12	81	57	0	138
13	88	86	0	174
14	123	122	0	245
15	150	197	0	347
16	426	470	1	897
17	538	505	0	1,043
18	586	463	0	1,049
19	642	457	0	1,099
20	502	381	1	884
21	500	331	0	831
22	422	346	0	768
23	345	274	0	619
24	335	270	0	605
25	340	265	0	605
26-30	1,602	1,199	0	2,801
31-35	1,402	1,021	0	2,423
36-40	1,309	1,083	0	2,392
41-45	1,077	887	0	1,964
46-50	810	757	2	1,569
51-55	849	583	0	1,232
56-60	425	451	0	876
61-65	292	340	1	633
66-70	258	241	0	499
71-75	239	226	0	465
76-80	157	204	0	361
81-85	104	97	1	202
86-90	33	41	0	74
91-95	2	9	0	11
95+	1	4	0	5
Unknown	537	630	140	1,307
Total	**14,835**	**12,570**	**147**	**27,352**

Figure 4.03 – Proportion of injured victims by gender



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 4.06 – Victims killed by age and gender

Victim Age	Male	Female	Unknown	Total
2	1	0	0	1
4	2	1	0	3
5	1	0	0	1
6	1	1	0	2
7	1	0	0	1
9	3	0	0	3
10	1	0	0	1
12	1	0	0	1
13	0	1	0	1
14	5	0	0	5
15	4	1	0	5
16	4	2	0	6
17	8	5	0	13
18	8	3	0	11
19	10	3	0	13
20	7	7	0	14
21	11	4	0	15
22	6	1	0	7
23	5	1	0	6
24	12	2	0	14
25	11	3	0	14
26-30	29	7	0	36
31-35	26	11	0	37
36-40	22	10	0	32
41-45	16	7	0	23
46-50	20	4	0	24
51-55	15	4	0	19
56-60	4	3	0	7
61-65	4	6	0	10
66-70	11	7	0	18
71-75	12	10	0	22
76-80	7	10	0	17
81-85	9	7	0	16
86-90	7	3	0	10
91-95	0	2	0	2
Unknown	1	1	3	5
Total	**283**	**127**	**3**	**415**

Figure 4.04 – Proportion of victims killed by gender

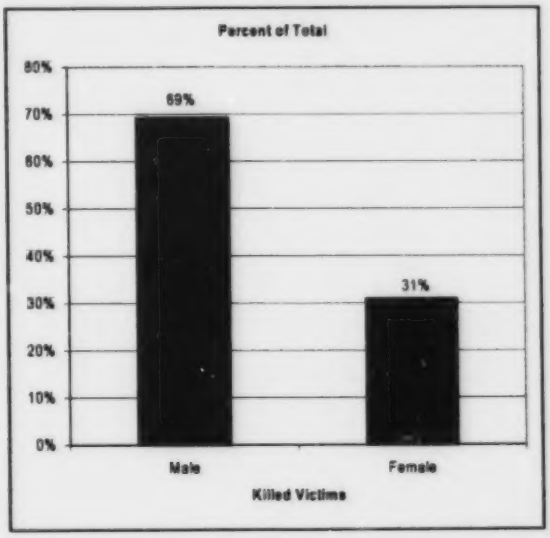


Table 4.07 – Location of most severe injury and injury type

Injury Type	Head	Face/ Nose	Eye	Neck	Chest	Back	Shoulder/ Upper Arm	Elbow/ Lower Arm/Hand	Abdomen/ Pelvis	Hip Upper Leg	Knee/ Lower Leg/Foot	Entire Body	Unknown	Total
Abrasion	644	315	28	186	136	120	181	418	45	78	420	92	58	2,701
Bruises	1,142	308	21	548	1,108	663	687	534	306	453	1,288	231	107	7,398
Lacerations	944	469	30	57	21	28	57	308	14	38	161	42	20	2,189
Bleeding	815	385	15	34	26	17	20	144	33	11	61	68	22	1,451
Fracture	187	74	1	59	183	59	155	210	67	137	350	172	4	1,818
Dislocation	6	4	0	45	8	43	105	33	5	15	38	7	4	311
Burns	1	3	0	1	1	5	4	16	2	1	5	13	2	54
Amputations	4	0	0	1	0	0	1	4	0	1	4	8	1	24
Concussion	435	8	1	36	23	14	4	2	5	2	10	22	4	566
Drowning	3	0	0	6	6	2	0	0	0	0	0	5	3	25
Whiplash	389	24	7	5,637	227	1,294	185	16	35	12	20	165	77	8,088
Other	46	4	1	27	31	32	10	6	17	9	13	24	48	268
Unknown	257	61	14	460	217	309	120	78	74	73	161	52	1,180	3,076
Total	**4,853**	**1,855**	**118**	**7,117**	**1,985**	**2,586**	**1,509**	**1,789**	**603**	**830**	**2,531**	**901**	**1,538**	**27,787**

Note: Injury type was determined by the attending police officer and may not always be confirmed by medical examination.

Table 4.08 – Victims by location of most severe injury

Injury Location	Injured	Killed	Total
Neck	7,096	21	7,117
Head	4,491	162	4,853
Back	2,584	2	2,586
Knee/Lower Leg/Foot	2,530	1	2,531
Chest	1,910	55	1,985
Elbow/Lower Arm/Hand	1,789	0	1,789
Face/Nose	1,854	1	1,855
Shoulder/Upper Arm	1,509	0	1,509
Entire Body	753	148	901
Hip/Upper Leg	828	2	830
Abdomen/Pelvis	587	16	603
Eye	118	0	118
Unknown	1,523	7	1,530
Total	**27,352**	**415**	**27,767**

Table 4.09 – Victims by injury type

Injury Location	Injured	Killed	Total
Whiplash	8,086	2	8,088
Bruises	7,384	12	7,396
Abrasion	2,699	2	2,701
Lacerations	2,167	22	2,189
Fracture	1,425	193	1,618
Bleeding	1,371	80	1,451
Concussion	547	19	566
Dislocation	306	5	311
Burns	45	9	54
Drowning	15	10	25
Amputations	18	6	24
Other	223	45	268
Unknown	3,066	10	3,076
Total	**27,352**	**415**	**27,767**

Note: Injury type was determined by the attending police officer and may not always be confirmed by medical examination.

Licensed Drivers

SECTION 5

Drivers licensed to operate motor vehicles in British Columbia totalled 3,454,878 at the end of 1998. The number of drivers licensed in 1998 showed an increase of 3.0% over the previous year.

Certain age groups are over-represented in traffic collisions. For example, 16 to 20 year old drivers made up only 6.0% of all licensed drivers in 1998, but they accounted for 16.1% of all drivers involved in 1998 collisions.

Older age groups are more likely to be under-represented in both the total driver population and the population of drivers involved in collisions. Drivers over 50 made up 31.2% of the total driver population in 1998, comprising 18.8% of drivers involved in collisions in 1998.

Finally, drivers between the ages of 21 and 50 made up 62.7% of the total driver population in 1998. They accounted for 63.8% of drivers involved in collisions.

More males were involved in collisions than females in all age categories.

Driver Licence Classes and Vehicles Permitted to Operate:

1 Any motor vehicle or combination of motor vehicles except for a motorcycle.

2 Bus, school bus, special activity bus or special vehicle;
Any combination of vehicles without air brakes where the towed vehicles exceed 4,600kg;
All vehicles in class 4 and 5.

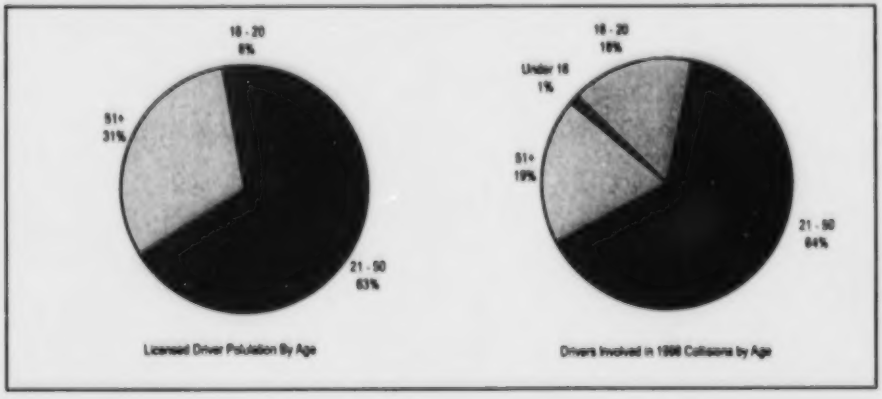
3 Mobile truck crane;
Tow car and its recovered vehicle;
A motor vehicle with three or more axles, except for a bus when used for its intended purpose;
A combination of vehicles where the towed vehicles do not exceed 4,600kg;
A combination of vehicles without air brakes where the towed vehicles exceed 4,600kg;
All vehicles in class 5.

4 Ambulance or taxi;
School bus or special activity bus or special vehicle or bus with seating capacity of not more than 25 persons including the driver;
All vehicles in class 5.

5 or 7* Two-axled motor vehicle, except a motorcycle, bus, school bus, special activity bus or vehicle, taxi or ambulance;
A limited speed motorcycle (moped);
Two-axled vehicle with towed vehicles under 4,600kg;
A motor home (including those with more than 2 axles).

6 or 8* Motorcycles;
All terrain vehicles and all terrain cycles.

* Under BC's Graduated Licensing Program, all new drivers must first apply for a Class 7 or 8 licence. Upon graduation from the Graduated Licensing Program, these licence classes are converted to Class 5 or 6 respectively.



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 5.01 – Comparison of licensed drivers and drivers involved in injury and fatal collisions by age

	Licensed Drivers	% of Total Driver Population	# of Drivers Involved in Injury and Fatal Collisions	% of Total Drivers Involved in Injury and Fatal Collisions**	% of Age Group Driver Population Involved in Injury and Fatal Collisions***
Under 16*	0	0.00	60	0.19	NA
16	29,845	0.86	799	2.57	2.68
17	41,357	1.20	1,007	3.24	2.43
18	44,009	1.27	1,165	3.75	2.65
19	45,941	1.33	1,114	3.59	2.42
20	47,340	1.37	952	3.07	2.01
21	49,025	1.42	922	2.97	1.88
22	50,857	1.47	814	2.62	1.60
23	53,218	1.54	743	2.39	1.40
24	55,891	1.62	742	2.39	1.33
25	57,916	1.68	743	2.39	1.28
26-30	342,067	9.90	3,553	11.45	1.04
31-35	388,594	11.25	3,352	10.80	0.86
36-40	429,048	12.42	3,420	11.02	
41-45	398,873	11.55	2,910	9.38	0.73
46-50	342,348	9.91	2,236	7.20	0.65
51-55	267,036	7.73	1,773	5.71	0.66
56-60	191,344	5.54	1,155	3.72	0.60
61-65	152,005	4.40	844	2.72	0.56
66-70	137,722	3.99	678	2.18	0.49
71-75	115,890	3.35	598	1.93	0.52
76-80	90,858	2.63	435	1.40	0.48
80+	123,694	3.58	1022	3.29	0.83
Total	**3,454,976**	**100%**	**31,037**	**100%**	

Note: This report does not include drivers whose age is unknown.

* Includes unlicensed drivers.

** Total number of collision involved drivers in the age group as a percentage of the total number of drivers involved in injury and fatal collisions.

*** Total number of collision involved drivers in the age group as a percentage of the total number of licensed drivers in that age group.

Table 5.02 – Driver age by gender by collision type

	Injury				Fatal				Total Drivers			
Driver Age	Male	Female	Unknown	Total	Male	Female	Unknown	Total	Male	Female	Unknown	Total
3	1	0	0	1	0	0	0	0	1	0	0	1
4	2	1	0	3	0	0	0	0	2	1	0	3
5	2	4	0	6	0	0	0	0	2	4	0	6
6	3	2	0	5	0	1	0	1	3	3	0	6
7	12	2	0	14	0	0	0	0	12	2	0	14
8	10	3	0	13	0	0	0	0	10	3	0	13
9	14	9	0	23	0	0	0	0	14	9	0	23
10	21	6	0	27	0	0	0	0	21	6	0	27
11	27	5	0	32	0	0	0	0	27	5	0	32
12	19	10	0	29	1	0	0	1	20	10	0	30
13	27	7	0	34	0	1	0	1	27	8	0	35
14	34	12	0	46	2	0	0	2	36	12	0	48
15	35	12	0	47	1	0	0	1	36	12	0	48
16	506	314	0	820	8	2	0	10	514	316	0	830
17	623	394	0	1,017	7	2	0	9	630	396	0	1,026
18	765	396	0	1,161	17	6	0	23	782	402	0	1,184
19	716	398	0	1,114	17	3	0	20	733	401	0	1,134
20	626	336	0	962	13	3	0	16	639	339	0	978
21	617	309	0	926	12	6	0	18	629	315	0	944
22	518	307	0	823	10	0	0	10	528	307	0	833
23	480	273	0	753	9	2	0	11	489	275	0	764
24	500	252	0	752	11	1	0	12	511	253	0	764
25	482	270	0	752	17	4	0	21	499	274	0	773
26-30	2,382	1,240	0	3,622	37	12	0	49	2,419	1,252	0	3,671
31-35	2,254	1,130	0	3,384	47	14	0	61	2,301	1,144	0	3,445
36-40	2,241	1,217	0	3,458	37	18	0	55	2,278	1,235	0	3,513
41-45	1,903	1,023	0	2,926	39	8	0	47	1,942	1,031	0	2,973
46-50	1,455	790	0	2,245	34	4	0	38	1,489	794	0	2,283
51-55	1,180	600	0	1,780	23	3	0	26	1,203	603	0	1,806
56-60	767	387	0	1,154	13	3	0	16	780	390	0	1,170
61-65	558	285	0	843	15	5	0	20	573	290	0	863
66-70	473	193	0	666	12	5	0	17	485	198	0	683
71-75	377	205	0	582	14	4	0	18	391	209	0	600
76-80	264	183	0	427	11	3	0	14	275	186	0	441
81-85	173	70	0	243	7	1	0	8	180	71	0	251
86-90	53	17	0	70	2	0	0	2	55	17	0	72
91-95	9	1	0	10	0	1	0	1	9	2	0	11
95+	0	1	0	1					0	1	0	1
Unknown	80	22	608	710	0	0	12	12	80	22	620	722
Total	20,297	10,888	808	31,481	418	112	12	540	20,823	10,778	820	32,021

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 5.03 – BC driver license class by driver type: Drivers involved in injury collisions

Driver License Class	Driver	Motorcycle Driver	Other Driver	Total
000*	355	10	0	365
100	960	8	0	968
160	278	32	0	310
200	91	0	0	91
230	35	1	0	36
260	18	0	0	18
300	267	3	0	270
340	46	0	0	46
346	26	3	0	29
360	88	11	0	99
400	807	0	0	807
460	125	23	0	148
500	23,092	106	0	23,198
560	1,212	371	0	1,583
600	5	14	0	19
700	192	0	0	192
800	1	0	0	1
997**	1,074	53	0	1,127
998***	1,141	32	28	1,201
Total	**29,811**	**667**	**28**	**30,506**

Note: "100" to "800" refers to driver licence classes 1 to 8. "340", for example, is a combination of class 3 and class 4.

* Indicates 'No Class'. It includes out-of-province drivers.

** Indicates 'Out-Of-Province' drivers.

*** Indicates 'License Class Unknown'. It includes out-of-province drivers.

Table 5.04 – BC driver license class by driver type: Drivers involved in fatal collisions

Driver License Class	Driver	Motorcycle Driver	Total
000*	9	0	9
100	37	1	38
160	13	2	15
200	1	0	1
300	1	0	1
340	2	0	2
346	1	0	1
360	2	2	4
400	17	0	17
460	1	0	1
500	309	5	314
560	26	15	41
700	3	0	3
997**	37	1	38
998***	44	2	46
Total	**503**	**28**	**531**

Note: "100" to "800" refers to driver licence classes 1 to 8. "340", for example, is a combination of class 3 and class 4.

* Indicates 'No Class'. It includes out-of-province drivers.

** Indicates 'Out-Of-Province' drivers.

*** Indicates 'License Class Unknown'. It includes out-of-province drivers.

Vehicles In 1998 Collisions

SECTION 6

There were 3,238,557 vehicles licensed* in British Columbia during 1998, an increase of about 1.0% from 1997. There were 32,893 vehicles involved in police-attended injury collisions during 1998, in comparison to 33,517 vehicles during 1997.

The number of passenger cars involved in 1998 collisions was 30,815, which accounted for 73.1% of all vehicles involved in collisions. The number of heavy single unit trucks involved in police attended injury collisions was 367 in 1998.

Unlike previous years where several collisions involving vehicles carrying dangerous goods were reported, there were no reports of such collisions in 1998.

* The figures presented reflect vehicles that have or did have an active policy during the year.

Table 6.01 – Number of vehicles involved in collisions by month

Month	Injury	Fatal	Total Vehicles	% of Total
January	2,318	40	2,358	7.17
February	1,979	26	2,005	6.10
March	2,483	43	2,526	7.68
April	2,457	48	2,505	7.62
May	2,741	55	2,796	8.50
June	2,563	29	2,592	7.88
July	3,023	51	3,074	9.35
August	2,930	61	2,991	9.09
September	2,690	50	2,740	8.33
October	3,029	47	3,076	9.35
November	3,225	28	3,253	9.89
December	2,913	64	2,977	9.05
Total	32,351	542	32,893	100%

Note: This report includes vehicles, bicycles, and miscellaneous unclassified entities.

Table 6.02 – Number of vehicles involved in collisions by vehicle use

Vehicle Use	Injury	Fatal	Total	% of Total
Personal	26,878	431	27,309	83.02
Business/Commercial	2,933	89	3,022	9.19
Parked	870	2	872	2.65
Recreational	508	4	512	1.56
Taxi	249	3	252	0.77
Emergency	197	2	199	0.60
Stolen	96	2	98	0.30
Farm Use	89	1	90	0.27
Government	38	0	38	0.12
Towing/Towed	18	0	18	0.05
Driver Training Facility	11	0	11	0.03
Military	2	0	2	0.01
Other	65	7	72	0.22
Unknown	397	1	398	1.21
Total	32,351	542	32,893	100%

Note: This report includes vehicles, bicycles, and miscellaneous unclassified entities.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 6.03 – Collisions by vehicle type

Vehicle Type	Injury	Fatal	Total
Passenger Car	15,373	247	15,620
Single Unit Truck/ Light	4,402	108	4,510
Bicycle	969	10	979
Motorcycle	634	24	658
Single Unit Truck/ Heavy*	346	13	359
Tractor Trailer*	287	18	305
Truck & Camper	139	8	147
Local Transit Bus	120	2	122
Tractor Trailer & Pup*	89	10	99
Car & Trailer	89	1	90
Heavy Truck/Trailer*	79	3	82
Motor Home	76	1	77
Light Truck/Trailer	83	0	83
Truck/ Camper & Trailer	56	3	59
Logging Truck & Pole Trailer*	43	3	46
Tow Truck	36	3	39
Intercity Bus	27	2	29
School Bus	19	1	20
Moped	15	0	15
General Construction	11	0	11
Road Construction	10	0	10
Trailer Only	9	0	9
All-Terrain Cycle	7	2	9
Farm Vehicle	5	2	7
Motor Home/Trailer	5	0	5
Trailer Bike	3	2	5
Snow Mobile	1	1	2
Dune Buggy	0	1	1
4 Wheel Drive Vehicle	1	0	1
Other	43	0	43
Unknown	57	1	58

* These vehicles are defined as weighing 10,900 kg or over.

Note: This report includes vehicles, bicycles, and miscellaneous unclassified entities. The purpose of the above table is to illustrate the occurrences of particular vehicle types in collisions. As the table is counting "collisions" rather than "vehicles" (please see Table 6.04 for a vehicle count), some double counting of collisions will occur in the data. For example, a two vehicle fatal collision involving a passenger car and a logging truck will be counted above as both a fatal passenger car collision, and a fatal logging truck collisions.

Table 6.04 – Number of vehicles involved in collisions by vehicle type

Vehicle Type	Injury	Fatal	Total Vehicles	% of Total
Passenger Car	24,158	314	24,472	74.40
Single Unit Truck/ Light	4,881	114	4,995	15.19
Bicycle	978	10	988	3.00
Motorcycle	644	24	668	2.03
Single Unit Truck/ Heavy*	354	13	367	1.12
Tractor Trailer*	300	19	319	0.97
Truck & Camper	148	9	157	0.48
Local Transit Bus	123	2	125	0.38
Tractor Trailer & Pup*	92	10	102	0.31
Car & Trailer	98	1	99	0.30
Heavy Truck/Trailer*	80	4	84	0.26
Motor Home	77	1	78	0.24
Light Truck/Trailer	84	0	84	0.19
Truck/ Camper & Trailer	58	3	61	0.19
Logging Truck & Pole Trailer*	43	3	46	0.14
Tow Truck	36	3	39	0.12
Intercity Bus	27	2	29	0.09
School Bus	19	1	20	0.06
Moped	18	0	18	0.05
General Construction	11	0	11	0.03
Road Construction	10	0	10	0.03
Trailer Only	9	0	9	0.03
All-Terrain Cycle	7	2	9	0.03
Farm Vehicle	5	2	7	0.02
Motor Home/Trailer	5	0	5	0.02
Trailer Bike	3	2	5	0.02
Snow Mobile	1	1	2	0.01
Dune Buggy	0	1	1	0.00
4 Wheel Drive Vehicle	1	0	1	0.00
Other	43	0	43	0.13
Unknown	62	1	63	0.19
Total	**32,381**	**542**	**32,883**	**100%**

* These vehicles are defined as weighing 10,900 kg or over.

Note: This report includes vehicles, bicycles, and miscellaneous unclassified

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 6.05 – Vehicles involved in collisions by vehicle use and type

	Vehicle Use														
Vehicle Type	Parked	Personal	Business/ Commercial	Driver Training Facility	Recreational	Emergency	Military	Taxi	Farm Use	Government	Towing/Towed	Stolen	Other	Unknown	Total
Passenger Car	868	21,948	1,019	7	6	180	0	245	10	26	2	73	37	269	24,472
Car & Trailer	1	82	7	0	0	1	0	0	1	0	2	0	0	5	99
Single Unit Truck/ Light	123	3,809	884	1	2	10	2	5	58	7	1	20	18	57	4,995
Single Unit Truck/ Heavy	20	58	268	0	0	9	0	0	8	2	0	1	2	3	387
Light Truck/Trailer	0	21	39	0	0	0	0	0	2	0	1	1	0	0	64
Heavy Truck/Trailer	3	0	80	0	0	0	0	0	0	0	1	0	0	0	84
Tractor Trailer	6	3	309	0	0	0	0	0	1	0	0	0	0	0	319
Tractor Trailer & Pup	3	3	86	0	0	0	0	0	0	0	0	0	0	0	102
Logging Truck & Pole Trailer	0	1	44	0	0	0	0	0	0	0	0	0	0	1	48
Tow Truck	2	0	25	0	0	0	0	0	0	0	10	0	2	0	39
School Bus	0	1	19	0	0	0	0	0	0	0	0	0	0	0	20
Local Transit Bus	7	1	115	0	0	0	0	1	0	1	0	0	0	0	125
Intercity Bus	0	0	28	0	1	0	0	0	0	0	0	0	0	0	29
Motorcycle	3	634	7	2	9	8	0	0	0	0	0	2	1	2	668
Moped	0	13	2	0	1	0	0	0	0	0	0	0	0	0	16
Bicycle	1	509	8	0	481	8	0	0	0	0	0	0	0	1	998
Truck & Camper	8	121	20	1	0	1	0	0	3	2	0	0	0	3	157
Truck/ Camper & Trailer	0	42	16	0	1	0	0	0	2	0	0	0	0	0	81
Motor Home	11	44	5	0	15	0	0	0	0	0	1	1	0	1	78
Motor Home/Trailer	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
Trailer Only	8	1	0	0	0	0	0	0	0	0	0	0	0	0	9
Snow Mobile	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Dune Buggy	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Trailer Bike	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5
4 Wheel Drive Vehicle	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
All-Terrain Cycle	0	2	1	0	6	0	0	0	0	0	0	0	0	0	9
Farm Vehicle	0	0	3	0	0	0	0	0	4	0	0	0	0	0	7
Road Construction	2	0	8	0	0	0	0	0	0	0	0	0	0	0	10
General Construction	2	0	9	0	0	0	0	0	0	0	0	0	0	0	11
Other	1	11	10	0	0	4	0	1	1	0	0	0	14	1	43
Unknown	5	2	1	0	0	0	0	0	0	0	0	0	0	55	63
Total	872	27,388	3,932	11	512	199	2	252	90	38	18	98	72	399	32,883

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Safety Equipment Use In 1998 Collisions

SECTION 7

The use of seat belts by motor vehicle drivers and passengers has been mandatory in British Columbia since 1977. In March 1985, child restraint legislation was passed, making it compulsory for children 18 kg and under to be secured in an approved child restraint. In 1998, of the 3 reported vehicle passengers killed in the age group 5 and under, two were in vehicles where safety equipment was not available and one's use of safety equipment was unknown.

The tables and graphs in this section strongly indicate the effectiveness of safety restraints in reducing casualties. In 1998, about 79.7% of the collision-involved drivers who did not use restraints were injured or killed, while about 49.8% of those who used restraints were injured or killed.

Air bag deployment has been tracked for several years in British Columbia, but occurrences of air bag deployment have likely been under-reported. In 1998, 482 air bag deployments were reported. Of the 366 drivers and 116 passengers whose air bag deployed, 5 drivers and 1 passenger were killed.

Table 7.01 – Type of safety equipment used by drivers in 1998

Safety Equipment	Not Injured	Injured	Killed	Total	% of Total
Lap & Harness	11,933	11,846	88	23,865	76.93
No Restraint Used	276	1,013	74	1,363	4.39
Lap Belt Only	355	266	0	621	2.00
Helmet	22	410	26	458	1.48
Air Bag	78	283	5	366	1.18
Harness Only	83	59	0	122	0.39
Vehicle Not Equipped	47	50	3	100	0.32
No Helmet	0	23	2	25	0.08
Unknown	2,595	1,477	30	4,102	13.22
Total	**15,369**	**15,427**	**226**	**31,022**	**100%**

Note: This report includes vehicles only.

Table 7.02 – Type of safety equipment used by passengers in 1998

Safety Equipment	Not Injured	Injured	Killed	Total	% of Total
Lap & Harness	5,842	5,858	51	11,751	65.48
Lap Belt Only	1,004	788	3	1,795	10.00
No Restraint Used	298	1,126	46	1,470	8.19
Child Restraint	554	144	0	698	3.89
Vehicle Not Equipped	101	170	3	274	1.53
Air Bag	36	79	1	116	0.65
Harness Only	54	44	0	98	0.55
Helmet	8	63	0	71	0.40
No Helmet	5	6	0	11	0.06
Other	2	21	0	23	0.13
Unknown	777	848	14	1,639	9.13
Total	**8,681**	**9,147**	**118**	**17,946**	**100%**

Note: This report includes vehicles only.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 7.03 – Safety equipment used for victims injured in collisions by position in vehicle

Safety Equipment	Driver	Front Seat Center	Front Seat Right	Back Seat Left	Back Seat Center	Back Seat Right	In the Cargo Area	Hanging on Outside	Other Passengers	Unknown	Total	% of Total
Lap & Harness	11,848	534	4,036	478	111	591	53	4	7	48	17,704	72.04
No Restraint Used	1,012	132	514	135	87	148	61	14	7	28	2,138	8.70
Lap Belt Only	266	79	104	185	125	264	17	0	1	13	1,054	4.29
Helmet	410	0	0	62	0	0	0	0	0	1	473	1.92
Air Bag	283	7	61	4	1	3	1	0	0	2	362	1.47
Vehicle Not Equipped	50	16	17	13	14	16	70	4	12	8	220	0.90
Child Restraint	0	7	15	38	33	47	4	0	0	0	144	0.59
Harness Only	59	3	24	3	2	9	3	0	0	0	103	0.42
No Helmet	23	0	1	3	0	0	0	0	0	2	29	0.12
Other	0	0	0	0	0	0	0	21	0	0	21	0.09
Unknown	1,478	66	411	125	51	96	36	9	5	49	2,326	9.47
Total	**15,427**	**844**	**5,183**	**1,044**	**424**	**1,174**	**245**	**52**	**32**	**149**	**24,574**	**100%**

Note: This report includes vehicles only.

Table 7.04 – Safety equipment used for victims killed in collisions by position in vehicle

Safety Equipment	Driver	Front Seat Center	Front Seat Right	Back Seat Left	Back Seat Center	Back Seat Right	In the Cargo Area	Hanging on Outside	Other	Unknown	Total	% of Total
Vehicle Not Equipped	3	1	0	1	1	0	0	0	0	0	6	1.74
No Restraint Used	74	4	21	3	3	6	2	1	3	3	120	34.88
Lap Belt Only	0	0	0	1	1	1	0	0	0	0	3	0.87
Lap & Harness	86	6	34	3	2	6	0	0	0	0	137	39.83
Air Bag	5	0	1	0	0	0	0	0	0	0	6	1.74
Helmet	26	0	0	0	0	0	0	0	0	0	26	7.56
No Helmet	2	0	0	0	0	0	0	0	0	0	2	0.58
Unknown	30	1	8	0	1	2	0	0	0	2	44	12.79
Total	**226**	**12**	**84**	**8**	**8**	**15**	**2**	**1**	**3**	**5**	**344**	**100%**

Note: This report includes vehicles only.

Table 7.05 – Driver age by safety equipment used for drivers injured in 1998

Driver Age	Vehicle Not Equipped	Restraint Not Used	Lap Belt Only	Harness Only	Lap and Harness	Air Bag	Helmet	No Helmet	Unknown	Total	% of Total
4	0	0	0	0	0	0	0	0	1	1	0.01
7	0	0	0	0	1	0	0	0	0	1	0.01
10	0	0	0	0	0	0	1	0	0	1	0.01
11	0	0	0	0	1	0	0	0	0	1	0.01
12	0	0	0	0	0	0	1	0	0	1	0.01
13	0	3	0	0	1	0	0	0	2	6	0.04
14	1	4	0	0	3	0	0	0	1	9	0.06
15	0	4	0	0	10	0	0	1	6	21	0.14
16	1	29	8	1	304	7	3	0	33	386	2.50
17	0	36	8	2	390	12	4	0	41	493	3.20
18	2	60	16	1	441	6	11	2	39	580	3.76
19	2	63	3	1	473	14	10	2	64	632	4.10
20	2	37	4	2	400	9	10	3	53	520	3.37
21	1	52	12	0	366	9	11	1	45	497	3.22
22	3	46	6	1	359	6	16	2	28	467	3.03
23	4	30	14	2	274	8	9	0	37	378	2.45
24	2	36	4	0	286	4	10	0	44	386	2.50
25	2	31	7	2	284	6	18	0	46	396	2.57
26-30	5	138	37	5	1,371	36	70	4	199	1,865	12.09
31-35	6	98	34	12	1,275	28	64	3	156	1,676	10.86
36-40	4	110	30	6	1,309	32	43	0	172	1,706	11.06
41-45	5	92	26	6	1,084	25	55	0	142	1,435	9.30
46-50	2	38	13	5	863	20	33	1	102	1,077	6.98
51-55	2	34	14	4	727	20	21	1	74	897	5.81
56-60	1	17	8	2	465	11	5	0	48	557	3.61
61-65	1	10	6	3	326	8	3	0	40	397	2.57
66-70	0	7	2	3	260	7	4	0	14	297	1.93
71-75	1	8	5	1	240	5	4	0	23	287	1.86
76-80	0	9	2	0	175	6	1	0	17	210	1.36
81-85	1	3	4	0	92	1	1	1	12	115	0.75
86-90	0	0	0	0	25	0	0	0	5	30	0.19
91-95	0	0	0	0	2	0	0	0	0	2	0.01
Unknown	2	18	3	0	39	1	2	2	33	100	0.65
Total	**50**	**1,013**	**286**	**59**	**11,848**	**283**	**410**	**23**	**1,477**	**15,427**	**100%**

Note: This report also includes drivers of motorcycles but excludes bicycle drivers.

Figure 7.01 – Safety equipment used by drivers injured in 1998

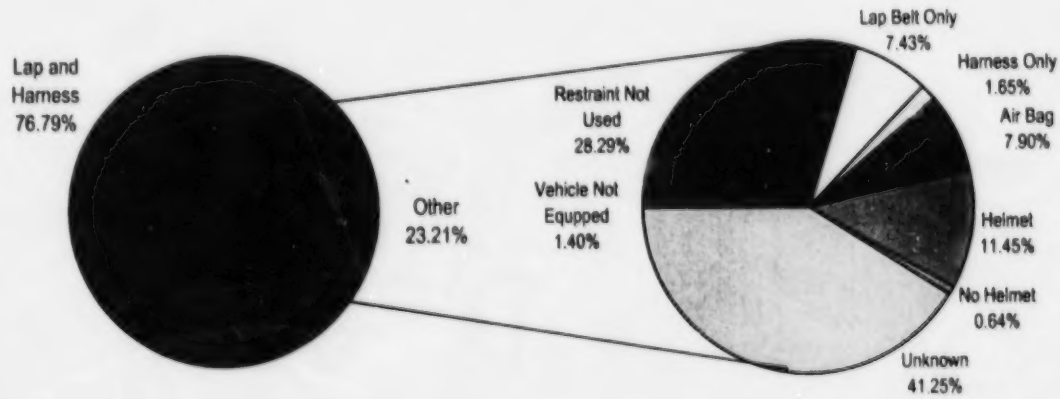


Table 7.06 – Driver age by safety equipment used for drivers killed in 1998

Driver Age	Vehicle Not Equipped	Restraint Not Used	Lap and Harness	Air Bag	Helmet	No Helmet	Unknown	Total	% of Total
13	0	0	0	0	1	0	0	1	0.44
14	0	1	0	0	0	0	0	1	0.44
15	0	1	0	0	0	0	0	1	0.44
16	0	1	1	0	0	0	1	3	1.33
17	0	1	4	0	0	0	0	5	2.21
18	0	2	2	2	0	0	1	7	3.10
19	0	3	4	0	0	0	0	7	3.10
20	0	4	2	0	0	0	1	7	3.10
21	0	4	2	0	1	0	0	7	3.10
22	0	0	2	0	1	0	2	5	2.21
23	0	2	1	0	0	0	0	3	1.33
24	0	1	4	0	3	0	0	8	3.54
25	0	3	2	0	2	0	0	7	3.10
26-30	0	8	8	0	5	0	3	24	10.62
31-35	1	15	6	0	3	1	3	29	12.83
36-40	0	11	8	0	2	1	5	25	11.06
41-45	1	5	3	0	4	0	3	16	7.08
46-50	0	2	4	1	2	0	1	10	4.42
51-55	0	3	4	2	0	0	2	11	4.87
56-60	0	0	2	0	1	0	1	4	1.77
61-65	0	3	3	0	0	0	0	6	2.65
66-70	0	0	10	0	1	0	0	11	4.87
71-75	0	1	5	0	0	0	4	10	4.42
76-80	0	2	4	0	0	0	0	6	2.65
81-85	1	0	5	0	0	0	1	7	3.10
86-90	0	0	1	0	0	0	1	2	0.88
91-95	0	0	1	0	0	0	0	1	0.44
Unknown	0	1	0	0	0	0	1	2	0.88
Total	**3**	**74**	**88**	**5**	**26**	**2**	**30**	**226**	**100%**

Note: This report also includes drivers of motorcycles but excludes bicycle drivers.

Figure 7.02 – Safety equipment used by drivers killed in 1998

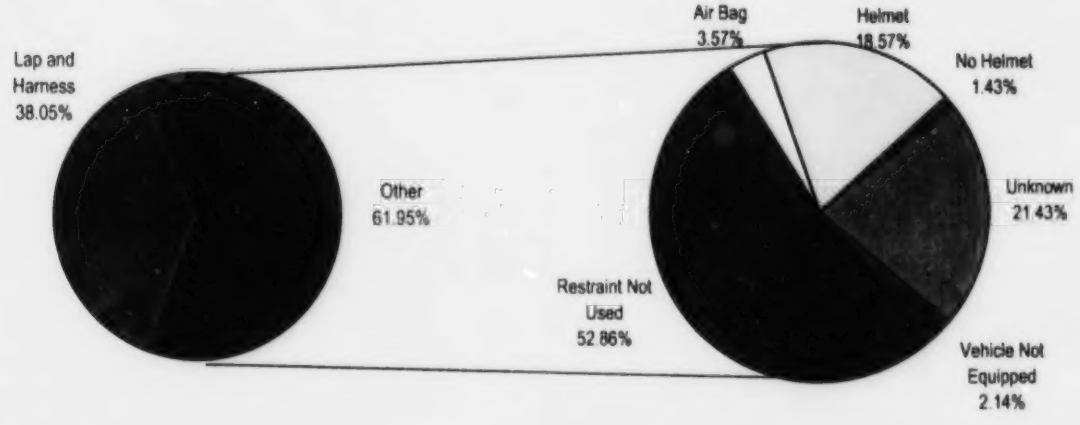


Table 7.07 – Passenger age by safety equipment used for passengers injured in 1998

Passenger Age	Vehicle Not Equipped	Restraint Not Used	Lap Belt Only	Harness Only	Lap and Harness	Air Bag	Child Restraint	Helmet	No Helmet	Other	Unknown	Total	% of Total
1	0	2	2	1	6	0	51	0	0	0	6	68	0.74
2	0	4	6	1	13	0	26	0	0	0	5	55	0.60
3	0	6	9	1	29	1	30	0	0	0	6	82	0.90
4	1	5	15	0	50	0	12	0	0	0	2	85	0.93
5	4	2	14	0	58	3	2	1	0	0	8	92	1.01
6	0	2	27	1	54	0	3	0	0	0	3	90	0.98
7	1	10	22	1	45	2	2	0	0	0	7	90	0.98
8	1	5	24	0	48	1	0	1	1	0	5	86	0.94
9	1	9	22	0	52	2	0	0	0	0	1	87	0.95
10	1	8	23	1	61	0	0	1	0	0	9	120	1.31
11	3	4	22	1	55	1	0	1	0	0	3	90	0.98
12	0	12	13	1	48	0	0	2	0	0	5	81	0.89
13	3	10	12	0	73	2	0	2	0	0	1	103	1.13
14	5	27	32	3	92	0	1	0	0	0	3	163	1.78
15	4	56	36	1	155	0	0	1	0	0	20	273	2.98
16	14	74	59	0	258	4	0	1	0	0	39	449	4.91
17	10	92	54	5	277	1	0	0	0	2	57	498	5.44
18	4	67	29	1	275	3	0	0	0	0	34	413	4.52
19	6	73	38	0	251	4	0	1	1	1	37	412	4.50
20	4	47	30	2	195	7	0	1	0	1	21	308	3.37
21	2	46	12	1	172	3	0	4	0	3	28	271	2.96
22	7	40	13	0	145	0	0	3	1	0	38	247	2.70
23	2	34	16	1	120	2	0	2	0	0	12	189	2.07
24	3	31	9	1	109	1	0	0	0	0	9	163	1.78
25	5	31	9	0	97	0	0	1	0	2	12	157	1.72
26-30	10	97	44	2	431	7	1	7	1	3	60	663	7.25
31-35	18	67	23	2	360	2	0	3	0	1	47	521	5.70
36-40	11	51	29	2	326	3	0	6	0	1	34	463	5.06
41-45	7	27	17	1	258	1	0	10	0	2	27	350	3.83
46-50	7	17	22	1	243	4	1	5	0	1	30	331	3.62
51-55	2	13	13	3	194	5	0	0	0	0	10	240	2.62
56-60	1	14	20	3	188	2	0	1	0	0	9	238	2.60
61-65	1	18	8	0	126	1	0	1	0	1	13	169	1.85
66-70	3	1	6	2	117	2	0	0	0	0	9	140	1.53
71-75	3	4	1	0	107	2	0	0	0	1	6	124	1.36
76-80	3	4	5	0	79	0	0	0	0	0	12	103	1.13
81-85	2	0	0	0	47	1	0	0	0	0	2	52	0.57
86-90	0	1	1	1	20	0	0	0	0	0	2	25	0.27
91-95	0	0	0	0	5	0	0	0	0	0	0	5	0.05
95+	0	1	0	0	1	0	0	0	0	0	1	3	0.03
Unknown	23	114	51	4	598	12	15	8	2	2	219	1,048	11.46
Total	**170**	**1,126**	**788**	**44**	**5,858**	**79**	**144**	**83**	**8**	**21**	**848**	**9,147**	**100%**

Note: This report also includes drivers of motorcycles but excludes bicycle drivers.

Figure 7.03 – Passenger age by safety equipment used for passengers injured in 1998

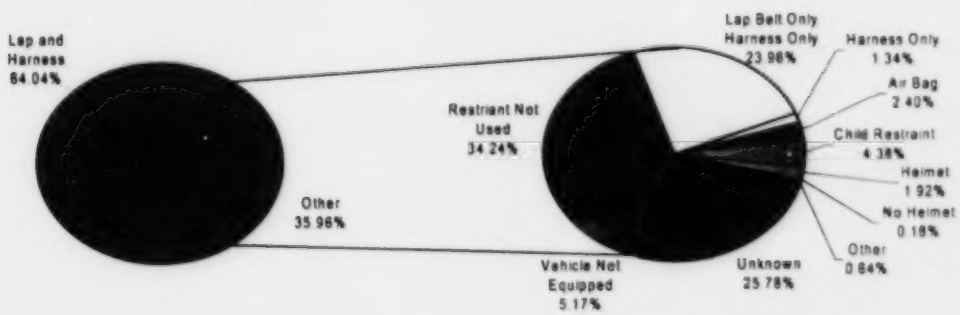


Table 7.08 – Passenger age by safety equipment used for passengers killed in 1998

Passenger Age	Vehicle Not Equipped	Restraint Not Used	Lap Belt Only	Lap and Harness	Air Bag	Unknown	Total	% of Total
4	2	0	0	0	0	1	3	2.54
6	0	0	0	0	0	1	1	0.85
7	0	1	0	0	0	0	1	0.85
9	0	0	0	1	0	1	2	1.69
10	0	0	0	1	0	0	1	0.85
14	0	1	0	1	0	1	3	2.54
15	0	2	0	2	0	0	4	3.39
16	0	2	0	1	0	0	3	2.54
17	0	4	0	1	0	2	7	5.93
18	0	0	0	2	0	0	2	1.69
19	0	2	0	2	0	0	4	3.39
20	0	4	0	1	0	1	6	5.08
21	0	2	0	4	0	0	6	5.08
22	0	2	0	0	0	0	2	1.69
23	0	1	0	1	0	0	2	1.69
24	0	1	0	1	1	1	4	3.39
25	0	5	0	2	0	0	7	5.93
26-30	1	6	1	1	0	0	9	7.63
31-35	0	0	0	2	0	1	3	2.54
36-40	0	2	0	1	0	1	4	3.39
41-45	0	3	0	2	0	0	5	4.24
46-50	0	1	0	4	0	0	5	4.24
51-55	0	2	0	1	0	1	4	3.39
56-60	0	0	0	2	0	1	3	2.54
61-65	0	0	0	1	0	0	1	0.85
66-70	0	1	1	1	0	0	3	2.54
71-75	0	1	0	4	0	0	5	4.24
76-80	0	0	0	6	0	0	6	5.08
81-85	0	1	1	4	0	1	7	5.93
86-90	0	1	0	2	0	0	3	2.54
Unknown	0	1	0	0	0	1	2	1.69
Total	**3**	**48**	**3**	**51**	**1**	**14**	**118**	**100%**

Note: This report also includes drivers of motorcycles but excludes bicycle drivers.

Figure 7.04 – Passenger age by safety equipment used for passengers killed in 1998

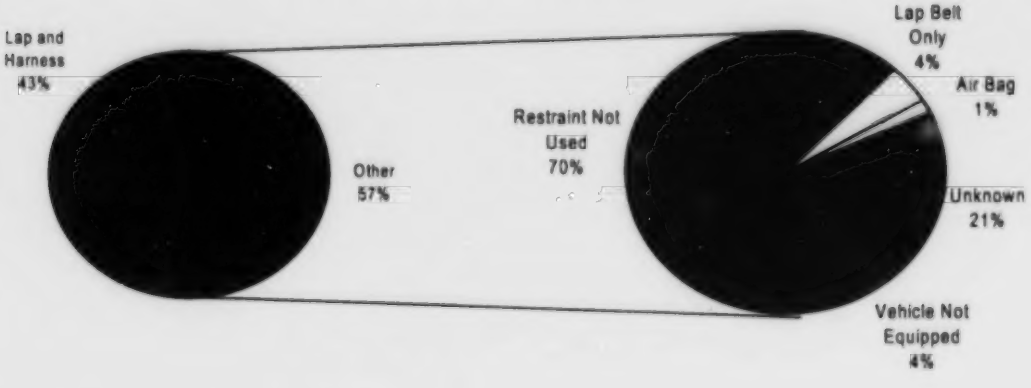


Table 7.09 – Ejection of drivers and injury type

Ejection	Not Injured	Injured	Killed	Total
Not Ejected	15,342	14,650	145	30,137
Partially Ejected	5	176	15	196
Ejected	10	548	66	624
Unknown	12	53	0	65
Total	**15,369**	**15,427**	**226**	**31,022**

Table 7.10 – Ejection of passengers and injury type

Ejection	Not Injured	Injured	Killed	Total
Not Ejected	8,640	8,767	80	17,487
Partially Ejected	13	75	6	94
Ejected	10	248	32	290
Not Applicable	2	22	0	24
Unknown	16	35	0	51
Total	**8,681**	**9,147**	**118**	**17,946**

Note: This report includes vehicles only.

Table 7.11 – Safety equipment and victim ejection

Safety Equipment	Not Ejected	Partially Ejected	Ejected	NA*	UK**	Total
Lap & Harness	35,509	48	37	0	22	35,616
No Restraint Used	2,485	94	260	1	13	2,833
Lap Belt Only	2,401	5	9	0	1	2,416
Child Restraint	694	2	1	0	1	698
Helmet	88	66	349	0	16	529
Air Bag	479	2	1	0	0	482
Vehicle Not Equipped	332	7	30	0	5	374
Harness Only	218	1	0	0	1	220
No Helmet	2	9	23	0	2	36
Not Applicable	0	0	0	23	0	23
Unknown	5,426	56	204	0	55	5,741
Total	**47,824**	**290**	**914**	**24**	**116**	**48,968**

* Not applicable.

** Unknown.

1998 Environmental Conditions and Collision Context SECTION 8

The environmental conditions reported in police attended casualty collisions do not vary greatly from year to year. Environmental factors were reported to be a contributing factor in 13.1% of the collisions in which factors were reported in 1998.

In general, the degree to which certain environmental conditions are represented in collisions reflects the degree to which these conditions are found in the overall environment. For example, the fact that the majority of collisions occur on asphalt roads does not mean that this road surface is more dangerous, but rather that asphalt is the predominant road surface to be found in the province.

In 1998, of the 18,343 casualty collisions, 95.8% occurred on asphalt roads; 62.0% happened under daylight; 61.8% took place on dry road surface and 48.1% occurred under clear weather.

The two major areas where more than half of the 1998 injury collisions took place were urban residential areas and business or shopping centres. These two areas accounted for 58.7% of all 1998 collisions. However, in fatal collisions, about 40.1% occurred in agricultural or undeveloped areas while urban residential and business or shopping centres accounted for 28.7% of the fatal collisions.

This year, new tables have been added to display collisions by traffic control device. In 1998, 56.1% of all casualty collisions occurred in areas where there were no traffic control devices and 61.0% of these collisions took place at intersections. Locations with illuminated traffic signals accounted for 18.8% of all 1998 casualty collisions and intersections or other locations with stops signs accounted for 13.1%.

Table 8.01 – Collisions by road type

Road Type	Injury	Fatal	Total	% of Total
Asphalt	17,239	335	17,574	95.81
Gravel	362	20	382	2.08
Concrete	142	3	145	0.79
Earth	44	3	47	0.26
Wood	12	1	13	0.07
Oiled Gravel	12	0	12	0.07
Brick/Stone	10	0	10	0.05
Other	5	0	5	0.03
Unknown	155	0	155	0.85
Total	**17,981**	**362**	**18,343**	**100%**

Table 8.02 – Collisions by roadway surface

Road Surface	Injury	Fatal	Total	% of Total
Dry	11,088	254	11,342	61.83
Wet	5,562	72	5,654	30.82
Ice	516	19	535	2.92
Snow	408	16	424	2.31
Slush	202	0	202	1.10
Muddy	28	1	29	0.16
Other	15	0	15	0.08
Unknown	142	0	142	0.77
Total	**17,981**	**362**	**18,343**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 8.03 – Collisions by lighting condition

Light	Injury	Fatal	Total	% of Total
Daylight	11,201	180	11,381	62.05
Dawn	323	11	334	1.82
Dusk	656	13	669	3.65
Dark/Full Illumination	1,675	24	1,699	9.26
Dark/No Illumination	1,470	72	1,542	8.41
Dark/Some Illumination	2,512	61	2,573	14.03
Other	1	0	1	0.01
Unknown	143	1	144	0.79
Total	**17,981**	**362**	**18,343**	**100%**

Table 8.04 – Collisions by weather condition

Weather	Injury	Fatal	Total	% of Total
Clear	8,629	193	8,822	48.09
Cloudy	4,968	104	5,072	27.65
Raining	3,586	45	3,631	19.80
Snowing	501	17	518	2.82
Fog	88	0	88	0.48
Strong Wind	20	1	21	0.11
Hail	14	0	14	0.08
Smog/Smoke	8	0	8	0.04
Other	8	1	9	0.05
Unknown	159	1	160	0.87
Total	**17,981**	**362**	**18,343**	**100%**

Table 8.05 – Collisions by land usage

Land Use	Injury	Fatal	Total	% of Total
Urban Residential	5,583	65	5,648	30.79
Business / Shopping	4,978	39	5,017	27.35
Agricultural / Undeveloped	2,442	145	2,587	14.10
Rural Residential	1,939	72	2,011	10.96
Industrial / Manufacturing	1,073	14	1,087	5.93
Apartment Residential	866	9	875	4.77
School/Playground	460	6	466	2.54
Recreational / Park / Camping	336	10	346	1.89
Other	43	2	45	0.25
Unknown	261	0	261	1.42
Total	**17,981**	**362**	**18,343**	**100%**

Table 8.06 – Collisions by collision location

Collision Location	Injury	Fatal	Total	% of Total
At Intersection	8,028	88	8,116	44.25
Between Intersection:Exchanges	6,978	218	7,196	39.23
Intersection of Road & Driveway or Alley	988	16	1,004	5.47
Off Highway	530	19	549	2.99
Parking Lot:Single/Multilevel	335	1	336	1.83
Bridge	281	6	287	1.56
Entrance Ramp	111	0	111	0.61
Exit Ramp	97	3	100	0.55
Entrance Intersection	54	1	55	0.30
Entrance Acceleration Lane	44	0	44	0.24
Railroad crossing	42	1	43	0.23
Exit Intersection	40	0	40	0.22
Industrial Road	30	1	31	0.17
Exit Deceleration lane	22	0	22	0.12
Tunnel	17	0	17	0.09
Transit -Express Lane	14	0	14	0.08
Ferry or Dock	9	2	11	0.06
Other	118	5	123	0.67
Unknown	243	1	244	1.33
Total	**17,981**	**362**	**18,343**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 8.07 – Collisions by road jurisdiction

Road Jurisdiction	Injury	Fatal	Total	% of Total
Provincial Highway	5,616	192	5,808	31.66
City/Municipal Street	11,521	141	11,662	63.58
Rural Road	844	29	873	4.76
Total	**17,981**	**362**	**18,343**	**100%**

Table 8.08 – Collisions by posted speed limit

Speed	Injury	Fatal	Total Collisions	% of Total
Posted at 10 km/hr	45	1	46	0.25
Posted at 20 km/hr	52	0	52	0.28
Posted at 30 km/hr	299	5	304	1.66
Posted at 40 km/hr	97	2	99	0.54
Posted at 50 km/hr	9,570	109	9,679	52.77
Posted at 60 km/hr	1,841	36	1,877	10.23
Posted at 70 km/hr	419	7	426	2.32
Posted at 80 km/hr	1,387	62	1,449	7.90
Posted at 90 km/hr	853	56	909	4.96
Posted at 100 km/hr	667	47	714	3.89
Posted at 110 km/hr	148	6	152	0.83
Advisory - 10 km/hr	6	0	6	0.03
Advisory - 20 km/hr	20	0	20	0.11
Advisory - 30 km/hr	107	1	108	0.59
Advisory - 40 km/hr	64	2	66	0.36
Advisory - 50 km/hr	913	7	920	5.02
Advisory - 60 km/hr	101	5	106	0.58
Advisory - 70 km/hr	24	4	28	0.15
Advisory - 80 km/hr	32	2	34	0.19
Advisory - 90 km/hr	2	0	2	0.01
Special - 10 km/hr	2	0	2	0.01
Special - 20 km/hr	3	0	3	0.02
Special - 30 km/hr	10	0	10	0.05
Special - 40 km/hr	3	0	3	0.02
Special - 50 km/hr	22	0	22	0.12
Special - 60 km/hr	3	0	3	0.02
Special - 80 km/hr	6	0	6	0.03
Other	46	8	54	0.29
Unknown	1,241	2	1,243	6.78
Total	**17,981**	**362**	**18,343**	**100%**

Table 8.09 – Collisions by traffic control device

Control Device	Injury	Fatal	Total	% of Total
None	10,015	275	10,290	56.10
Traffic Signal	3,430	24	3,454	18.83
Stop Sign	2,380	24	2,404	13.11
Yield Sign	235	1	236	1.29
Traffic Signal with Advance Flashers	169	2	171	0.93
Flashing Signal	157	4	161	0.88
Lane Use Turn Control Sign	93	3	96	0.52
Officer/Flagman/School Guard	79	1	80	0.44
Railroad Crossing Sign	40	1	41	0.22
Land Use Signal	18	1	19	0.10
Not Applicable	865	20	885	4.82
Other	82	3	85	0.46
Unknown	418	3	421	2.30
Total	**17,981**	**362**	**18,343**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 8.10 – Traffic control device and collision location

Control Device	At Intersection	Between Intersection	Road/Driveway Intersection	Bridge/ Tunnel	Other	Unknown	Total	% of Total
None	6,281	210	367	2,131	1,264	37	10,290	56.10
Traffic Signal	2,149	54	140	1,066	21	24	3,454	18.83
Stop Sign	1,890	32	87	537	46	12	2,404	13.11
Traffic Signal with Advance Flashers	103	3	1	62	0	2	171	0.93
Flashing Signal	101	0	6	50	4	0	161	0.88
Yield Sign	169	4	12	44	6	1	236	1.29
Lane Use Turn Control Sign	57	1	2	28	7	1	96	0.52
Officer/Flagman/School Guard	64	0	2	14	0	0	80	0.44
Railroad Crossing Sign	25	0	0	10	6	0	41	0.22
Land Use Signal	17	0	0	1	0	1	19	0.10
Not Applicable	452	23	38	201	185	6	885	4.82
Other	81	1	3	18	2	0	85	0.46
Unknown	213	6	11	109	22	60	421	2.30
Total	11,382	334	669	4,271	0 1,543	144	18,343	100%

Collision Configurations in 1998

SECTION 9

The distribution of police-attended casualty collisions among the various collision configurations changes little from year to year.

In multiple vehicle collisions in 1998, 30.6% involved a rear end collision which was the most common types of collisions. Followed was right angle collisions which accounted for 23.7% of collisions. Of all single vehicle collisions, 34.6% involved travelling off the road to the right, followed by travelling off the road to the left (22.1%).

About 64.8% of police attended casualty collisions involved multiple vehicles and 35.2% were single vehicle collisions. Of all fatal collisions, 40.3% involved multiple vehicles.

Single and multiple vehicle collisions by collision type

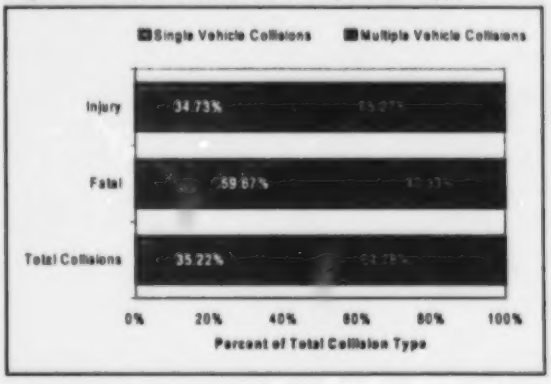


Table 9.01 – Collisions by primary collision occurrence

Primary Collision occurrence	Injury	Fatal	Total	% of Total
Rear End	3,651	13	3,664	19.97
Intersection - Right Angle	3,088	41	3,129	17.06
Off Road Right	2,262	77	2,339	12.75
Left Turn-Across Oncoming Traffic	1,580	14	1,604	8.74
Off Road Left	1,480	65	1,545	8.42
Head On	702	67	769	4.19
Left Turn - Head On	531	2	533	2.91
Side Swipe-Opposite Direction	482	5	487	2.65
Overtaking	232	4	236	1.29
Backing Up	177	3	180	0.98
Left Turn - One Way	126	0	126	0.69
Right Turn - Rear End	116	1	117	0.64
Right Turn - Head On	117	0	117	0.64
One Way Street	37	1	38	0.21
Right Turn - Same Direction	34	0	34	0.19
Right Turn-Opposite Direction	20	0	20	0.11
Other	2,628	65	2,693	14.68
Unknown	709	4	712	3.88
Total	17,982	362	18,343	100%

Table 9.02 – Single vehicle collisions by primary collision occurrenc

Primary Collision occurrence	Injury	Fatal	Total	% of Total
Off Road Right	2,159	77	2,236	34.81
Off Road Left	1,368	60	1,429	22.10
Intersection - Right Angle	294	14	308	4.77
Head On	145	5	150	2.32
Left Turn-Across Oncoming Traffic	100	3	103	1.59
Backing Up	90	2	92	1.42
Side Swipe-Opposite Direction	52	0	52	0.80
Left Turn - Head On	51	0	51	0.79
Rear End	34	0	34	0.53
Right Turn - Head On	26	0	26	0.40
Right Turn - Same Direction	16	0	16	0.25
Overtaking	15	0	15	0.23
Left Turn - One Way	14	0	14	0.22
Right Turn - Rear End	11	0	11	0.17
One Way Street	9	1	10	0.15
Right Turn-Opposite Direction	7	0	7	0.11
Other	1,558	53	1,611	24.93
Unknown	296	1	297	4.60
Total	6,245	216	6,461	100%

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 9.03 – Multiple vehicle collisions by primary collision occurrence

Primary Collision occurrence	Injury	Fatal	Total	% of Total
Rear End	3,617	13	3,630	30.55
Intersection - Right Angle	2,794	27	2,821	23.74
Left Turn-Across Oncoming Traffic	1,490	11	1,501	12.63
Head On	557	62	619	5.21
Left Turn - Head On	480	2	482	4.06
Side Swipe-Opposite Direction	430	5	435	3.66
Overtaking	217	4	221	1.86
Off Road Left	112	5	117	0.98
Left Turn - One Way	112	0	112	0.94
Right Turn - Rear End	105	1	106	0.89
Off Road Right	103	0	103	0.87
Right Turn - Head On	91	0	91	0.77
Backing Up	87	1	88	0.74
One Way Street	28	0	28	0.24
Right Turn - Same Direction	18	0	18	0.15
Right Turn-Opposite Direction	13	0	13	0.11
Other	1,070	12	1,082	9.11
Unknown	412	3	415	3.49
Total	**11,738**	**148**	**11,882**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Alcohol Related Collisions in 1998

SECTION 10

Alcohol related collisions as presented in this report are those police-attended collisions where alcohol involvement was judged to be a contributing factor to the collision. These include collisions where a pedestrian or bicyclist was judged to be impaired. This is a judgement made by an attending police officer and does not always rely upon breathalyser tests, toxicology reports or other formal measures of alcohol presence. When such evidence is available, it may be used in making this judgement. The alcohol involvement factor also does not always indicate charges laid in this connection. It has been demonstrated that police reports underestimate the presence of alcohol in collisions. Where toxicology reports are available for fatally injured victims, they show a higher proportion of alcohol involvement.

Collisions

In 1998, 2,141 (11.9%) of all reported injury collisions involved alcohol, and about 104 (28.7%) of all reported fatal collisions.

Casualties

About 3.5% of the alcohol related casualty collisions resulted in death in 1998. Approximately 34.0% of all persons killed in motor vehicle collisions in 1998 were victims of collisions involving alcohol.

Of all the injured victims in 1998 alcohol related collisions, 68.7% of victims injured were in or on the drinking-driver's vehicle. Similarly, approximately 81.3% of all victims killed in 1998 alcohol related collisions were in the drinking-driver's vehicle.

Driver Age And Gender

Of all drivers with the alcohol factor involved in police attended casualty collisions, 80.7% were male. Of male drivers, 16.3% were between the ages of 16 and 20, and 32.6% were between the ages of 21 and 30. Of female drivers with the alcohol factor, 19.9% were between the ages of 16 and 20, and 30.1% were between the ages of 21 and 30.

Time Of Occurrence

Consistent with previous years, alcohol related casualty collisions are more likely to occur on weekends (Friday, Saturday, Sunday) than on weekdays. In 1998, approximately 59.7% of all alcohol related injury collisions occurred on weekends. Likewise, 68.3% of all alcohol related fatal collisions happened on weekends.

Unlike the pattern for total collisions, the peak occurrence for alcohol related collisions is not during the evening rush hour, but between the hours of midnight and 3:00 a.m. Collisions occurring during this period accounted for about 27.2% of all alcohol related casualty collisions. In addition, the number of alcohol related casualty collisions climbs at a higher rate through the early and late evening hours than do total casualty collisions.

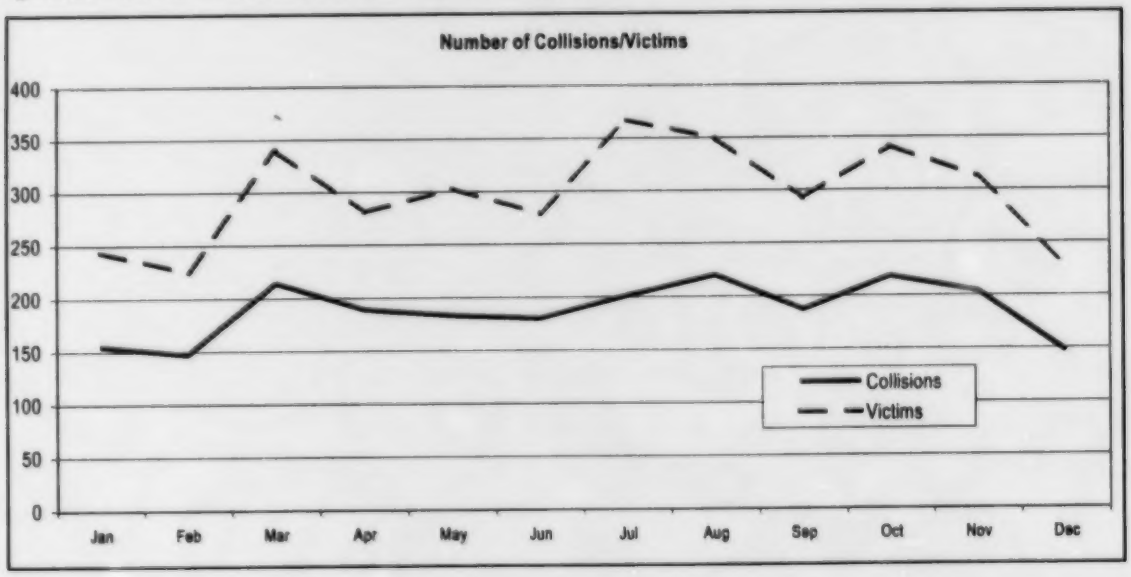
Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 10.01 – Alcohol related collisions and victims by Month

Month	Collisions			Victims		
	Injury	Fatal	Total	Injured	Killed	Total
January	152	3	155	241	3	244
February	139	8	147	217	8	225
March	201	13	214	325	15	340
April	176	13	189	265	16	281
May	174	9	183	292	11	303
June	171	9	180	266	13	279
July	188	13	201	351	16	367
August	209	11	220	339	11	350
September	178	9	187	281	11	292
October	210	8	218	330	11	341
November	200	4	204	308	4	312
December	143	4	147	224	4	228
Total	**2,141**	**104**	**2,245**	**3,439**	**123**	**3,562**

Note: This report also includes pedestrians with alcohol factor who were responsible for the collision.

Figure 10.01 – Alcohol related collisions: Collisions and victims by month

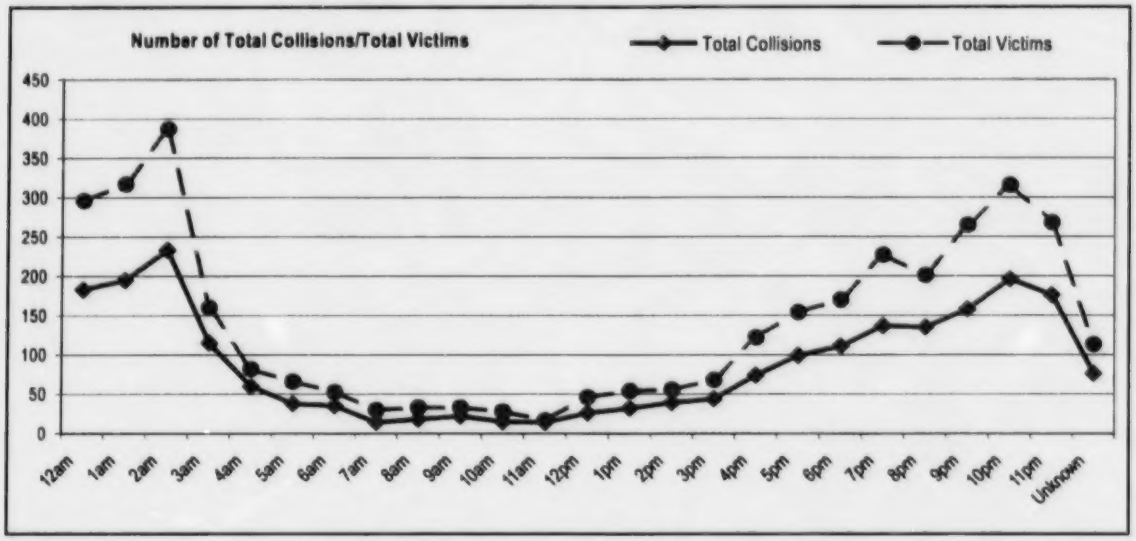


Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 10.02 – Alcohol related injury collisions by day of week and collision hour

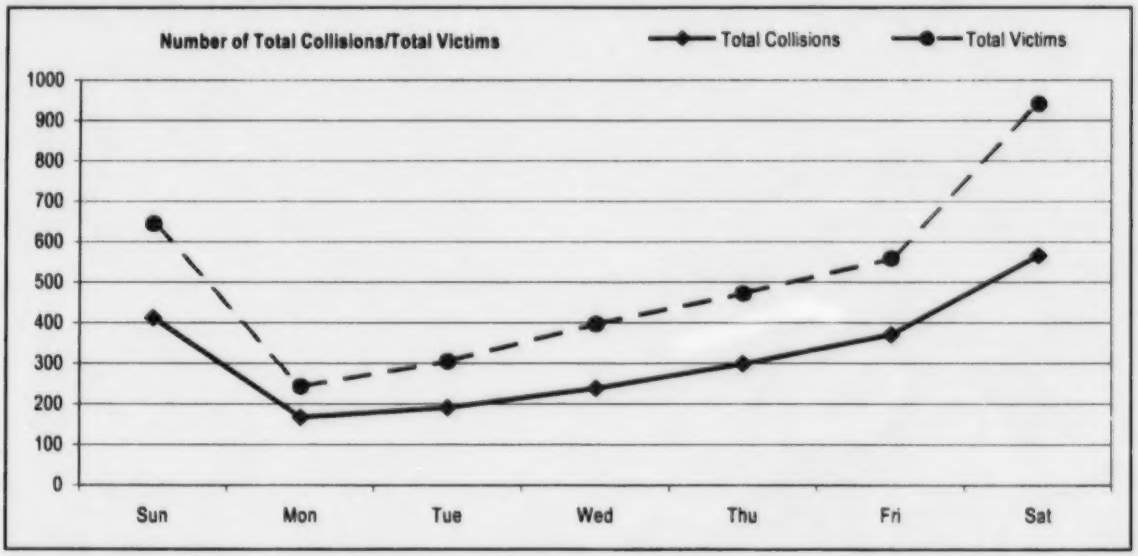
Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total Collisions	% of Total
0000-0059	34	14	13	15	28	17	52	173	8.08
0100-0159	38	12	13	14	26	32	50	185	8.64
0200-0259	54	4	18	20	32	26	67	221	10.32
0300-0359	31	5	8	6	13	12	37	112	5.23
0400-0459	15	1	6	2	7	6	21	58	2.71
0500-0559	11	1	2	6	5	2	9	36	1.68
0600-0659	12	0	2	3	2	4	8	31	1.45
0700-0759	1	0	1	1	1	2	5	11	0.51
0800-0859	6	0	1	1	1	3	4	16	0.75
0900-0959	5	1	2	1	5	3	4	21	0.98
1000-1059	5	2	0	0	0	2	3	12	0.56
1100-1159	4	0	1	1	2	0	5	13	0.61
1200-1259	2	2	3	3	5	5	6	26	1.21
1300-1359	4	1	3	3	7	8	5	31	1.45
1400-1459	3	7	2	6	1	8	8	35	1.63
1500-1559	12	3	3	8	3	5	6	40	1.87
1600-1659	14	1	3	13	14	11	17	73	3.41
1700-1759	20	12	6	10	12	18	19	97	4.53
1800-1859	17	9	11	18	10	20	23	108	5.04
1900-1959	18	13	14	21	15	27	25	133	6.21
2000-2059	19	12	12	10	21	21	35	130	6.07
2100-2159	15	16	19	20	16	28	35	149	6.96
2200-2259	19	15	17	22	26	45	41	185	8.64
2300-2359	18	18	14	18	25	41	35	169	7.89
Unknown	13	12	8	11	10	7	15	76	3.55
Total	**390**	**161**	**182**	**233**	**287**	**353**	**535**	**2,141**	**100%**

Figure 10.02 – Distribution of alcohol related collisions and victims by collision hour



Note: Includes both injury and fatal collisions and both injured and killed victims.

Figure 10.03 – Distribution of alcohol related collisions and victims by day of week



Note: Includes both injury and fatal collisions and both injured and killed victims.

Table 10.03 – Alcohol related fatal collisions by day of week and collision hour

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total Collisions	% of Total
0000-0059	4	0	1	0	2	0	3	10	9 62
0100-0159	3	0	0	1	2	0	4	10	9 62
0200-0259	3	0	2	1	1	2	3	12	11 54
0300-0359	0	0	0	0	0	0	3	3	2 88
0400-0459	1	0	0	0	0	0	1	2	1 92
0500-0559	1	0	0	0	0	0	1	2	1 92
0600-0659	1	0	0	0	1	0	2	4	3 85
0700-0759	0	0	0	2	0	1	0	3	2 88
0800-0859	0	0	0	0	0	1	1	2	1 92
0900-0959	1	0	0	0	0	0	0	1	0 96
1000-1059	0	2	0	0	0	0	1	3	2 88
1100-1159	0	0	0	0	1	0	0	1	0 96
1300-1359	0	0	0	0	0	0	1	1	0 96
1400-1459	1	1	0	0	0	2	0	4	3 85
1500-1559	1	0	0	0	0	0	3	4	3 85
1600-1659	0	0	0	0	0	0	1	1	0 96
1700-1759	0	0	1	0	1	0	0	2	1 92
1800-1859	1	1	0	0	0	1	0	3	2 88
1900-1959	2	0	0	0	0	1	1	4	3 85
2000-2059	1	0	0	0	1	1	2	5	4 81
2100-2159	2	1	0	1	0	4	1	9	8 65
2200-2259	0	1	4	1	1	3	1	11	10 58
2300-2359	0	0	1	0	2	2	2	7	6 73
Total	22	6	9	6	12	18	31	104	100%

Table 10.04 – Driver age by collision type in alcohol related collisions – Drivers with alcohol factor only

Age	Injury	Fatal	Total	% of Total
13	1	0	1	0.05
15	4	1	5	0.24
16	22	3	25	1.19
17	41	0	41	1.95
18	67	6	73	3.47
19	107	6	113	5.38
20	93	5	98	4.66
21	101	7	108	5.14
22	56	2	58	2.76
23	60	4	64	3.04
24	77	1	78	3.71
25	52	4	56	2.66
26-30	288	8	296	14.08
31-35	243	18	261	12.42
36-40	261	12	273	12.99
41-45	195	10	205	9.75
46-50	94	2	96	4.57
51-55	71	1	72	3.43
56-60	52	1	53	2.52
61-65	28	1	29	1.38
66-70	15	0	15	0.71
71-75	9	0	9	0.43
76-80	7	1	8	0.38
81-85	2	0	2	0.10
Unknown	63	0	63	3.00
Total	**2,009**	**93**	**2,102**	**100%**

Table 10.05 – Alcohol related collisions by age, by gender and by collision type – Drivers with alcohol factor only

	Injury			Fatal		
Age	Male	Female	Total	Male	Female	Total
13	0	1	1	0	0	0
15	0	4	4	1	0	1
16	15	7	22	2	1	3
17	26	15	41	0	0	0
18	55	12	67	4	2	6
19	87	20	107	5	1	6
20	72	21	93	5	0	5
21	87	14	101	6	1	7
22	52	4	56	2	0	2
23	46	14	60	4	0	4
24	65	12	77	1	0	1
25	43	9	52	4	1	5
26-30	225	63	288	7	1	8
31-35	195	48	243	15	3	18
36-40	210	51	261	11	1	12
41-45	151	45	196	9	2	11
46-50	78	16	94	2	0	2
51-55	59	12	71	1	0	1
56-60	45	7	52	0	1	1
61-65	26	2	28	1	0	1
66-70	13	2	15	0	0	0
71-75	9	0	9	0	0	0
76-80	6	1	7	1	0	1
81-85	1	1	2	0	0	0
Unknown	13	1	14	1	0	1
Total	**1,579**	**382**	**1,961**	**82**	**14**	**96**

Note: This report does not include drivers whose gender was unknown.

Figure 10.04 – Drivers with alcohol factor involved in collisions

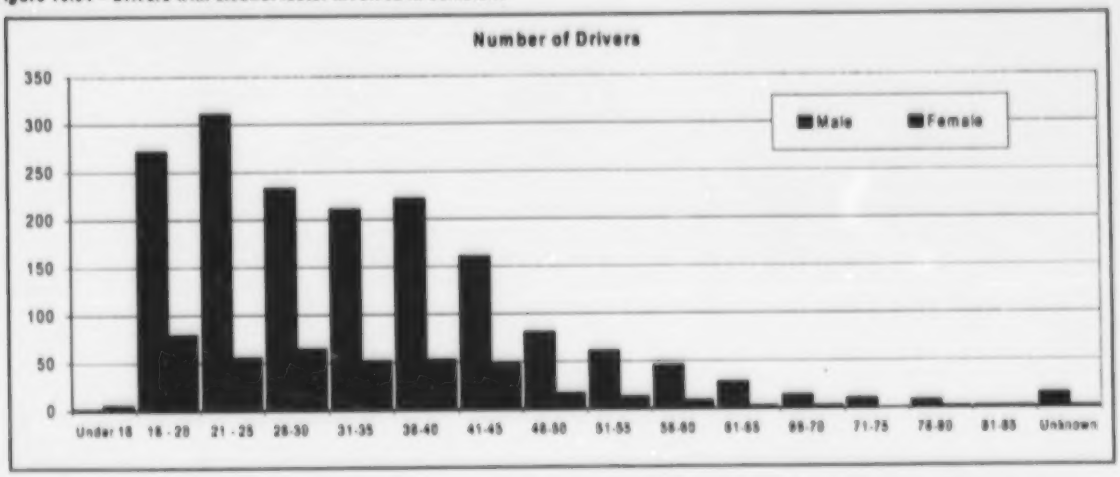


Table 10.06 – Driver age by collision type in alcohol related collisions – All drivers

Age	Injury	Fatal	Total	% of Total
13	1	0	1	0.03
15	4	1	5	0.16
16	44	3	47	1.49
17	85	1	86	2.09
18	97	8	105	3.32
19	139	6	145	4.58
20	123	6	129	4.08
21	129	8	137	4.33
22	80	2	82	2.59
23	88	4	92	2.91
24	103	2	105	3.32
25	70	8	78	2.47
26-30	409	13	422	13.34
31-35	388	22	410	12.96
36-40	381	17	398	12.58
41-45	315	17	332	10.49
46-50	163	7	170	5.37
51-55	132	7	139	4.39
56-60	78	3	81	2.56
61-65	49	3	52	1.64
66-70	28	1	29	0.92
71-75	21	0	21	0.66
76-80	9	1	10	0.32
81-85	5	0	5	0.16
Unknown	99	4	103	3.26
Total	**3,020**	**144**	**3,164**	**100%**

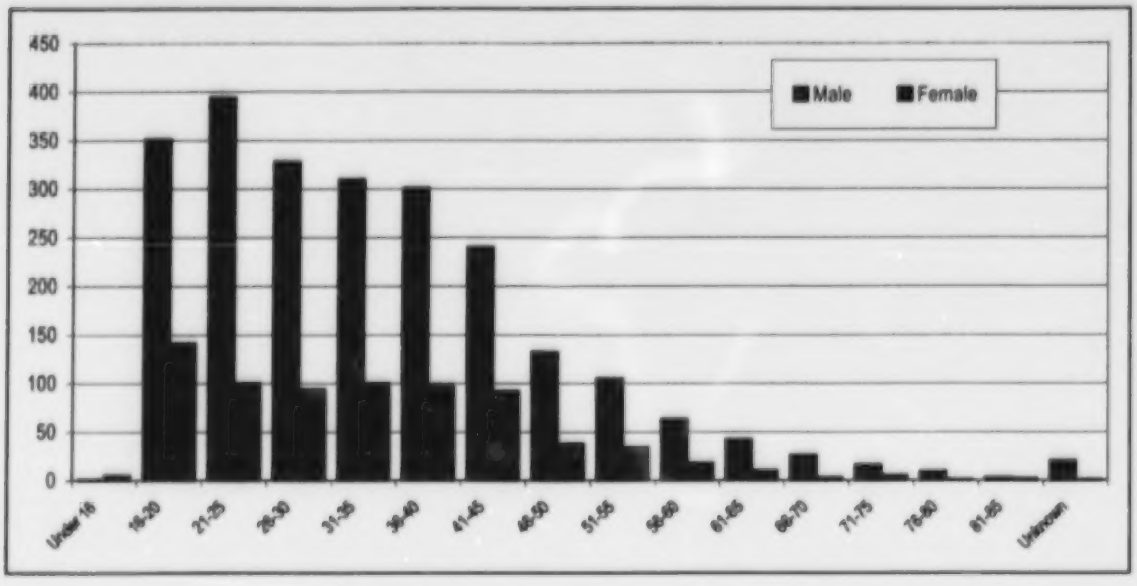
Table 10.07 – Drivers in alcohol-related collisions by age, by gender and by collision type – All drivers

	Injury			Fatal		
Age	Male	Female	Total	Male	Female	Total
13	0	1	1	0	0	0
15	0	4	4	1	0	1
16	29	15	44	2	1	3
17	40	25	65	1	0	1
18	69	28	97	6	2	8
19	105	34	139	5	1	6
20	89	34	123	5	1	6
21	103	26	129	7	1	8
22	68	12	80	2	0	2
23	68	20	88	4	0	4
24	81	22	103	1	1	2
25	54	16	70	6	2	8
26-30	318	91	409	10	3	13
31-35	292	96	388	18	4	22
36-40	286	95	381	15	2	17
41-45	227	88	315	13	4	17
46-50	126	37	163	6	1	7
51-55	98	34	132	7	0	7
56-60	61	17	78	2	1	3
61-65	40	9	49	2	1	3
66-70	25	3	28	1	0	1
71-75	16	5	21	0	0	0
76-80	8	1	9	1	0	1
81-85	3	2	5	0	0	0
Unknown	18	1	19	2	0	2
Total	**2,224**	**716**	**2,940**	**117**	**25**	**142**

Note: This report does not include drivers whose gender were unknown.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 10.05 – All drivers involved in alcohol related collisions



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 10.08 – Licensed drivers and drivers involved in alcohol related collisions (drivers with alcohol factor only) by age

	Licensed Drivers	% of Total Driver Population	# of Drivers Involved in Injury and Fatal Collisions	% of Total Drivers Involved in Injury and Fatal Collisions**
Under 16*	0	0.00	6	0.29
16	29,845	0.86	25	1.23
17	41,357	1.20	41	2.01
18	44,009	1.27	73	3.58
19	45,941	1.33	113	5.54
20	47,340	1.37	98	4.80
21	49,025	1.42	108	5.29
22	50,857	1.47	58	2.84
23	53,216	1.54	64	3.14
24	55,991	1.62	78	3.82
25	57,916	1.68	57	2.79
26-30	342,087	9.90	296	14.51
31-35	388,584	11.25	261	12.79
36-40	429,048	12.42	273	13.38
41-45	398,873	11.55	205	10.05
46-50	342,348	9.91	96	4.71
51-55	267,038	7.73	72	3.53
56-60	191,344	5.54	53	2.60
61-65	152,005	4.40	29	1.42
66-70	137,722	3.99	15	0.74
71-75	115,890	3.35	9	0.44
76-80	90,858	2.63	8	0.39
80+	123,884	3.58	2	0.10
Total	**3,454,878**	**100%**	**2,040**	**100%**

Note: This report does not include drivers whose age is unknown.

* Includes unlicensed drivers.

** Total number of collision involved drivers in the age group as a percentage of the total number of drivers involved in injury and fatal collisions.

Table 10.09 – Victims injured by victim age and road user class in alcohol related collisions

Victim Age	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Motorcycle Driver	Motorcycle Passenger	Other	Unknown	Total
1	0	4	0	0	0	0	0	0	0	4
2	0	3	0	1	0	0	0	0	0	4
3	0	6	0	1	0	0	0	0	0	7
4	0	4	0	0	0	0	0	0	0	4
5	0	3	0	1	0	0	0	0	1	5
6	0	3	0	0	0	0	0	0	0	3
7	0	6	0	1	0	0	0	0	1	8
8	0	4	0	0	0	0	1	0	0	5
9	0	5	0	0	0	0	0	0	0	5
10	0	10	0	3	0	0	1	0	0	14
11	0	6	0	0	1	0	0	0	0	7
12	0	4	0	0	0	0	0	0	0	4
13	1	8	0	0	0	0	0	0	2	9
14	0	12	0	3	0	0	0	0	0	15
15	4	28	0	0	0	0	0	0	0	32
16	27	55	0	2	0	0	1	1	1	87
17	39	74	0	2	0	0	0	0	5	120
18	68	68	0	3	0	2	0	0	3	142
19	103	90	1	9	0	2	1	1	3	210
20	85	62	0	4	0	2	1	0	0	154
21	88	82	1	4	0	3	1	0	2	179
22	53	56	0	5	0	0	0	1	1	116
23	62	40	0	4	0	3	0	1	0	110
24	68	27	0	0	1	2	0	0	2	100
25	50	33	0	3	2	1	0	0	0	89
26-30	249	117	2	15	8	8	1	1	5	404
31-35	225	98	0	22	14	13	2	1	1	378
36-40	230	64	0	23	9	7	2	0	2	337
41-45	190	38	1	21	5	9	1	0	2	267
46-50	96	33	0	9	3	4	0	0	0	145
51-55	71	17	0	8	3	2	0	0	0	101
56-60	47	13	1	11	0	0	0	0	0	72
61-65	29	13	0	2	1	0	0	0	0	45
66-70	17	5	0	2	0	0	0	0	0	24
71-75	13	5	0	4	0	0	0	0	0	22
76-80	3	0	0	1	0	0	0	0	0	4
81-85	2	2	0	0	0	0	0	0	0	4
86-90	0	1	0	0	0	0	0	0	0	1
95+	0	2	0	0	0	0	0	0	0	2
Unknown	26	153	1	8	0	0	3	0	11	202
Total	**1,842**	**1,252**	**7**	**172**	**47**	**56**	**15**	**6**	**42**	**3,439**

Table 10.10 – Victims killed by victim age and road user class in alcohol related collisions

Victim Age	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Motorcycle Driver	Other	Unknown	Total
9	0	1	0	0	0	0	0	1	2
14	0	3	0	0	0	0	0	0	3
15	1	2	0	0	0	0	0	0	3
16	1	0	0	0	0	0	0	0	1
17	0	2	0	0	0	0	0	0	2
18	3	0	0	0	0	0	0	0	3
19	1	3	0	2	0	0	0	0	6
20	3	0	0	0	0	0	0	0	3
21	2	2	0	1	0	0	0	0	5
22	1	1	0	0	0	0	0	0	2
23	1	0	1	0	0	0	0	0	2
24	1	1	0	1	0	0	0	0	3
25	4	3	0	0	0	0	0	1	8
26-30	3	7	0	1	0	3	0	1	15
31-35	15	0	0	2	0	0	0	0	17
36-40	11	3	0	0	0	0	1	0	15
41-45	6	2	0	1	1	1	1	0	12
46-50	2	1	0	3	0	1	0	0	7
51-55	4	2	0	3	0	0	0	0	9
56-60	0	1	0	0	0	0	0	0	1
61-65	2	0	0	0	0	0	0	0	2
76-80	1	0	0	0	0	0	0	0	1
81-85	0	1	0	0	0	0	0	0	1
Total	82	35	1	14	1	5	2	3	123

Table 10.11 – Victims injured by victim age and road user class in alcohol related collisions

Victim Age	Driver	Passenger	Hanging on**	Pedestrian	Bicycle Driver	Motorcycle Driver	Motorcycle Passenger	Other	Unknown	Total
1	0	3	0	0	0	0	0	0	0	3
2	0	1	0	0	0	0	0	0	0	1
3	0	4	0	0	0	0	0	0	0	4
4	0	2	0	0	0	0	0	0	0	2
5	0	1	0	0	0	0	0	0	0	1
6	0	1	0	0	0	0	0	0	0	1
7	0	3	0	0	0	0	0	0	1	4
8	0	1	0	0	0	0	1	0	0	2
10	0	1	0	0	0	0	0	0	0	1
11	0	3	0	0	0	0	0	0	0	3
12	0	3	0	0	0	0	0	0	0	3
13	1	0	0	0	0	0	0	0	2	3
14	0	11	0	2	0	0	0	0	0	13
15	4	16	0	0	0	0	0	0	0	20
16	17	42	0	1	0	0	0	1	1	82
17	27	58	0	2	0	0	0	0	5	92
18	51	50	0	1	0	2	0	0	3	107
19	91	73	1	6	0	1	1	1	3	187
20	85	54	0	3	0	2	1	0	0	125
21	74	66	1	3	0	2	1	0	2	149
22	38	40	0	3	0	0	0	1	1	83
23	47	33	0	0	0	1	0	1	0	82
24	50	19	0	0	1	1	0	0	2	73
25	37	25	0	3	2	1	0	0	0	68
26-30	190	91	2	10	6	6	1	1	5	314
31-35	149	63	0	15	11	11	2	0	1	252
36-40	156	43	0	16	9	8	2	0	2	236
41-45	126	24	1	14	5	7	1	0	2	182
46-50	61	18	0	6	3	4	0	0	0	92
51-55	41	7	0	7	3	2	0	0	0	60
56-60	31	7	1	5	0	0	0	0	0	44
61-65	19	5	0	1	1	0	0	0	0	26
66-70	9	1	0	2	0	0	0	0	0	12
71-75	6	2	0	0	0	0	0	0	0	8
76-80	3	0	0	0	0	0	0	0	0	3
81-85	1	1	0	0	0	0	0	0	0	2
95+	0	2	0	0	0	0	0	0	0	2
Unknown	13	118	1	1	0	0	3	0	10	144
Total	1,299	898	7	193	43	48	13	5	48	2,448

Note: The alcohol contributing factor is only assigned to drivers and pedestrians. Passengers and hanging-on included in this report were victims who were in/on a drinking driver's vehicle.

* 'Driver' here refers to drivers of all vehicles.

** 'Hanging-on' refers to those hanging on a vehicle at the time of collision.

Figure 10.06 – Victims injured in alcohol related collisions

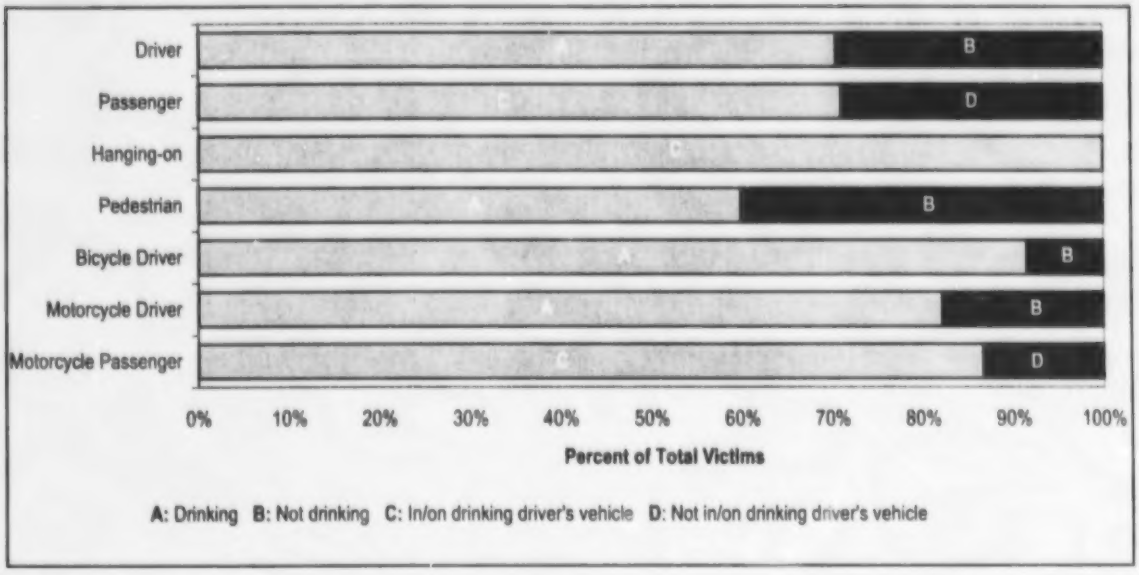


Figure 10.07 – Victims killed in alcohol related collisions

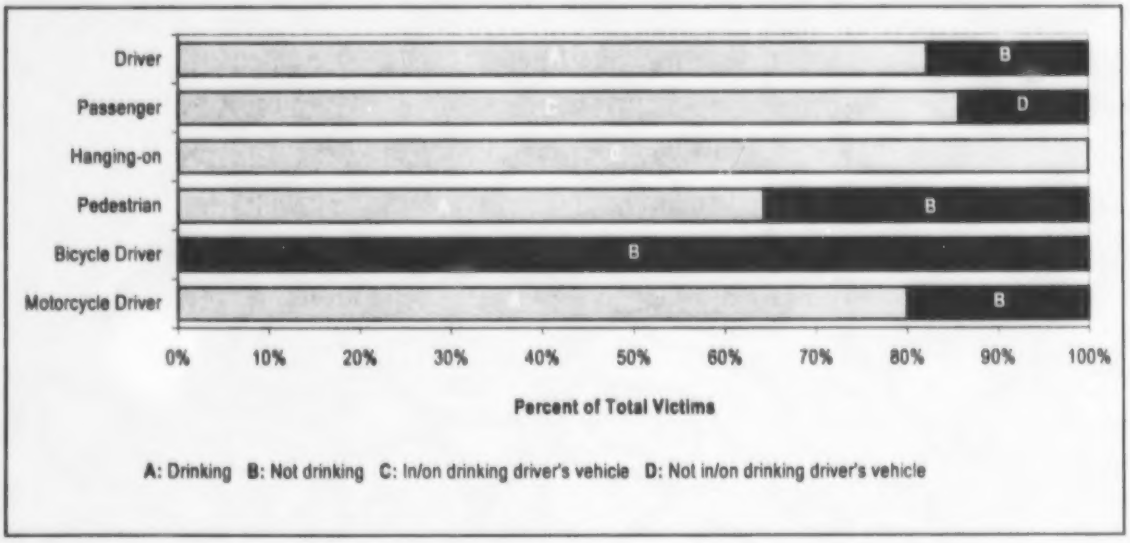


Table 10.12 – Victims killed by victim age and road user class in alcohol related collisions where the driver[a] or pedestrian was drinking

Victim Age	Driver	Passenger	Hanging-on	Pedestrian	Motorcycle Driver	Other	Unknown	Total
9	0	0	0	0	0	0	1	1
14	0	2	0	0	0	0	0	2
15	1	2	0	0	0	0	0	3
16	1	0	0	0	0	0	0	1
17	0	2	0	0	0	0	0	2
18	3	0	0	0	0	0	0	3
19	1	3	0	1	0	0	0	5
20	3	0	0	0	0	0	0	3
21	2	2	0	1	0	0	0	5
22	1	1	0	0	0	0	0	2
23	1	0	1	0	0	0	0	2
24	1	1	0	1	0	0	0	3
25	3	3	0	0	0	0	1	7
26-30	3	7	0	1	2	0	1	14
31-35	13	0	0	2	0	0	0	15
36-40	10	3	0	0	0	1	0	14
41-45	4	1	0	0	1	1	0	7
46-50	1	0	0	2	1	0	0	4
51-55	1	2	0	1	0	0	0	4
61-65	1	0	0	0	0	0	0	1
76-80	1	0	0	0	0	0	0	1
81-85	0	1	0	0	0	0	0	1
Total	51	30	1	9	4	2	3	100

[a] 'Driver' here refers to drivers of all vehicles.

Note: The alcohol contributing factor is only assigned to drivers and pedestrians. Passengers included in this report were victims who were in/on a drinking driver's vehicle.

Table 10.13 – Victims injured by victim age and road user class for victims not in drinking driver's vehicle in alcohol related collisions

Victim Age	Driver	Passenger	Pedestrian	Bicycle Driver	Motorcycle Driver	Motorcycle		Unknown	Total
1	0	1	0	0	0	0	0	0	1
2	0	2	1	0	0	0	0	0	3
3	0	2	1	0	0	0	0	0	3
4	0	2	0	0	0	0	0	0	2
5	0	2	1	0	0	0	0	1	4
6	0	2	0	0	0	0	0	0	2
7	0	3	1	0	0	0	0	0	4
8	0	3	0	0	0	0	0	0	3
9	0	5	0	0	0	0	0	0	5
10	0	9	3	0	0	1	0	0	13
11	0	3	0	1	0	0	0	0	4
12	0	1	0	0	0	0	0	0	1
13	0	6	0	0	0	0	0	0	6
14	0	1	1	0	0	0	0	0	2
15	0	12	0	0	0	0	0	0	12
16	10	13	1	0	0	1	0	0	25
17	12	16	0	0	0	0	0	0	28
18	15	18	2	0	0	0	0	0	35
19	22	17	3	0	1	0	0	0	43
20	20	8	1	0	0	0	0	0	29
21	12	16	1	0	1	0	0	0	30
22	15	16	2	0	0	0	0	0	33
23	15	7	4	0	2	0	0	0	28
24	18	8	0	0	1	0	0	0	27
25	13	8	0	0	0	0	0	0	21
26-30	59	26	5	0	0	0	0	0	90
31-35	76	35	7	3	2	0	1	0	124
36-40	74	21	5	0	1	0	0	0	101
41-45	62	14	7	0	2	0	0	0	85
46-50	35	15	3	0	0	0	0	0	53
51-55	30	10	1	0	0	0	0	0	41
56-60	16	6	6	0	0	0	0	0	28
61-65	10	8	1	0	0	0	0	0	19
66-70	8	4	0	0	0	0	0	0	12
71-75	7	3	4	0	0	0	0	0	14
76-80	0	0	1	0	0	0	0	0	1
81-85	1	1	0	0	0	0	0	0	2
86-90	0	1	0	0	0	0	0	0	1
Unknown	13	37	7	0	0	0	0	1	58
Total	**543**	**382**	**88**	**4**	**18**	**2**	**1**	**2**	**993**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 10.14 – Victims killed by victim age and road user class for victims not in drinking driver's vehicle in alcohol related collisions

Victim Age	Driver	Passenger	Pedestrian	Bicycle Driver	Motorcycle Driver	Total
9	0	1	0	0	0	1
14	0	1	0	0	0	1
19	0	0	1	0	0	1
25	1	0	0	0	0	1
26-30	0	0	0	0	1	1
31-35	2	0	0	0	0	2
36-40	1	0	0	0	0	1
41-45	2	1	1	1	0	5
46-50	1	1	1	0	0	3
51-55	3	0	2	0	0	5
56-60	0	1	0	0	0	1
61-65	1	0	0	0	0	1
Total	11	5	5	1	1	23

Table 10.15 – Victims killed by victim age and road user class for victims not in drinking driver's vehicle in alcohol related collisions

Victim Age	Driver	Passenger	Pedestrian	Bicycle Driver	Motorcycle Driver	Total
9	0	1	0	0	0	1
14	0	1	0	0	0	1
19	0	0	1	0	0	1
25	1	0	0	0	0	1
26-30	0	0	0	0	1	1
31-35	2	0	0	0	0	2
36-40	1	0	0	0	0	1
41-45	2	1	1	1	0	5
46-50	1	1	1	0	0	3
51-55	3	0	2	0	0	5
56-60	0	1	0	0	0	1
61-65	1	0	0	0	0	1
Total	11	5	5	1	1	23

Unsafe Speed Related Collisions in 1998

SECTION 11

Unsafe speed related collisions as presented in this report are those police-reported casualty collisions where unsafe speed was judged to be a contributing factor to the collision. This is a judgement made by the attending police officer and it does not relate to possible charges laid in connection with speeding. However, the judgment will generally be supported by evidence presented by witnesses, indications of excessive skidding, or severe crush zones on the damaged vehicles.

Collisions

During 1998 unsafe speed was involved in 2,938 (16.3%) of all reported injury collisions, and 121 (33.4%) of reported fatal collisions.

Unlike previous years where unsafe speed was the single most cited contributing factors in fatal collisions, unsafe speed was surpassed by driving without due care in 1998 and was the second most cited contributing factor.

Casualties

About 4.0% of the unsafe speed related casualty collisions resulted in death in 1998 while about 1.9% of collisions caused by contributing factors other than unsafe speed resulted in death in the same year. Approximately 40.1% of persons killed in motor vehicle collisions in 1998 were victims of collisions caused by unsafe speed.

During 1998, 71.5% of victims injured in unsafe speed related collisions were in vehicles travelling at unsafe speed. Similarly, approximately 84.1% (122 of 145) of all victims killed in unsafe speed related collisions were in vehicles travelling at unsafe speed.

Driver Age And Gender

Of all drivers travelling at unsafe speed resulting in a casualty collision in 1998, 76.8% were male. Of male drivers, about 32.2% were between the ages of 16 and 20, and 31.0% were between the ages of 21 and 30. Of female drivers travelling at unsafe speed resulting in a casualty collision, 32.0% of them were between the ages of 16 and 20 and 28.2% were between the ages of 21 and 30.

Time Of Occurrence

Casualty collisions involving unsafe speed are more likely to occur on weekend days (Friday, Saturday, Sunday) than on weekdays. In 1998, approximately 48.7% of all unsafe speed related injury collisions occurred on the weekend. Moreover, 62.8% of all unsafe speed related fatal collisions happened on the weekend.

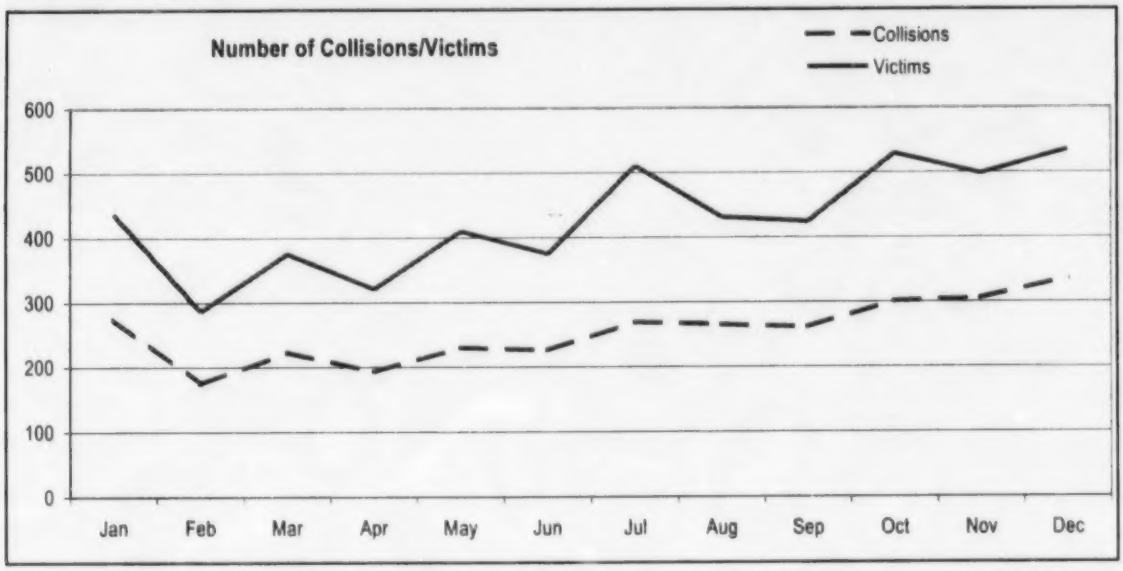
There is a peak occurrence for unsafe speed related injury collisions between 3pm and 6pm, similar to the pattern for total casualty collisions. A secondpeak occurred between 10pm and 11pm. For fatal collisions, there were two evening peaks, one between 7pm and 8pm, and the other between 9pm and 10pm.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 11.01 – Unsafe speed related collisions and victims by month

	Collisions			Victims		
Month	Injury	Fatal	Total	Injured	Killed	Total
January	267	8	275	426	11	437
February	168	7	175	277	9	286
March	213	10	223	363	12	375
April	185	8	193	310	11	321
May	217	13	230	396	14	410
June	217	9	226	361	14	375
July	257	12	269	496	14	510
August	245	20	265	410	21	431
Sept	252	9	261	415	9	424
October	292	9	301	519	10	529
November	300	5	305	493	5	498
December	325	11	336	520	15	535
Total	**2,938**	**121**	**3,059**	**4,986**	**145**	**5,131**

Figure 11.01 – Unsafe speed related collisions and victims by month



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 11.02 – Unsafe speed injury collisions by day of week and hour of collision

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total Collisions	% of Total
0000-0059	28	14	9	16	20	12	26	125	4.25
0100-0159	25	9	13	11	19	15	37	129	4.39
0200-0259	34	4	12	9	19	19	56	153	5.21
0300-0359	22	6	7	8	5	4	20	72	2.45
0400-0459	24	4	3	5	9	5	12	62	2.11
0500-0559	6	2	7	12	5	4	11	47	1.60
0600-0659	12	5	6	6	10	8	8	55	1.87
0700-0759	8	2	7	10	16	11	16	70	2.38
0800-0859	17	12	20	20	21	18	16	124	4.22
0900-0959	14	20	15	17	13	12	15	106	3.61
1000-1059	16	10	20	17	13	16	15	107	3.64
1100-1159	6	16	17	24	16	23	20	122	4.15
1200-1259	21	13	12	15	16	15	16	110	3.74
1300-1359	13	31	16	16	19	15	19	133	4.53
1400-1459	17	21	16	14	16	19	21	128	4.36
1500-1559	29	21	25	21	21	26	24	167	5.68
1600-1659	24	22	24	20	26	30	20	166	5.65
1700-1759	23	23	19	20	21	26	16	148	5.04
1800-1859	15	19	17	16	20	29	21	139	4.73
1900-1959	26	13	17	15	17	23	24	135	4.59
2000-2059	12	16	16	17	27	21	32	141	4.80
2100-2159	19	12	20	19	20	24	22	136	4.63
2200-2259	17	16	17	24	22	31	32	161	5.48
2300-2359	16	20	9	16	15	25	20	121	4.12
Unknown	10	10	10	10	17	9	15	81	2.76
Total	**454**	**343**	**358**	**382**	**425**	**440**	**536**	**2,938**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 11.02 – Distribution of unsafe speed related collisions and victims by collision hour

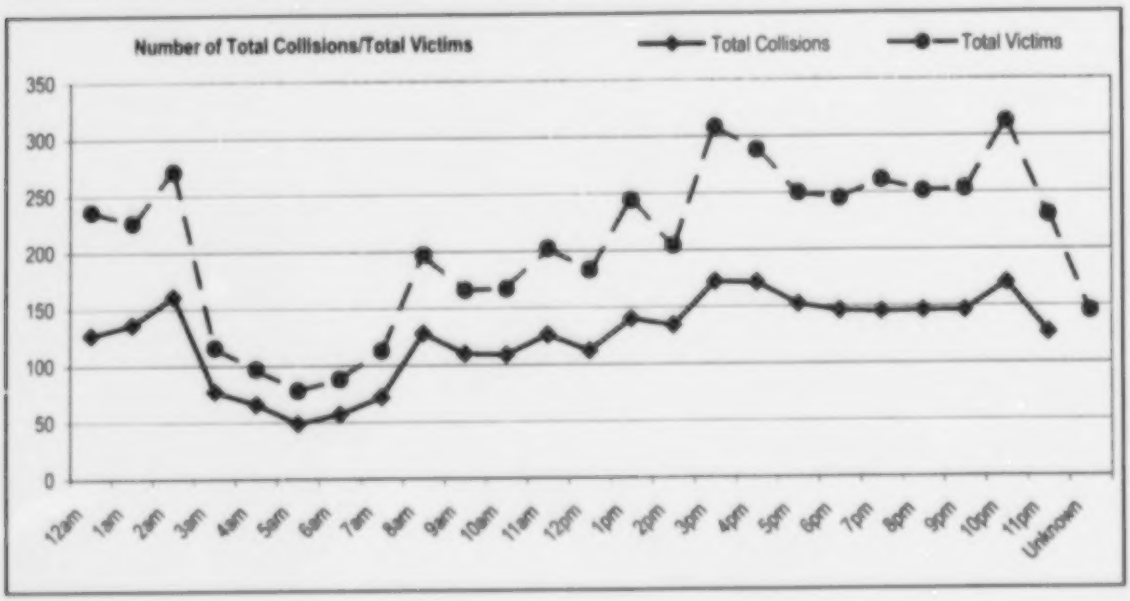
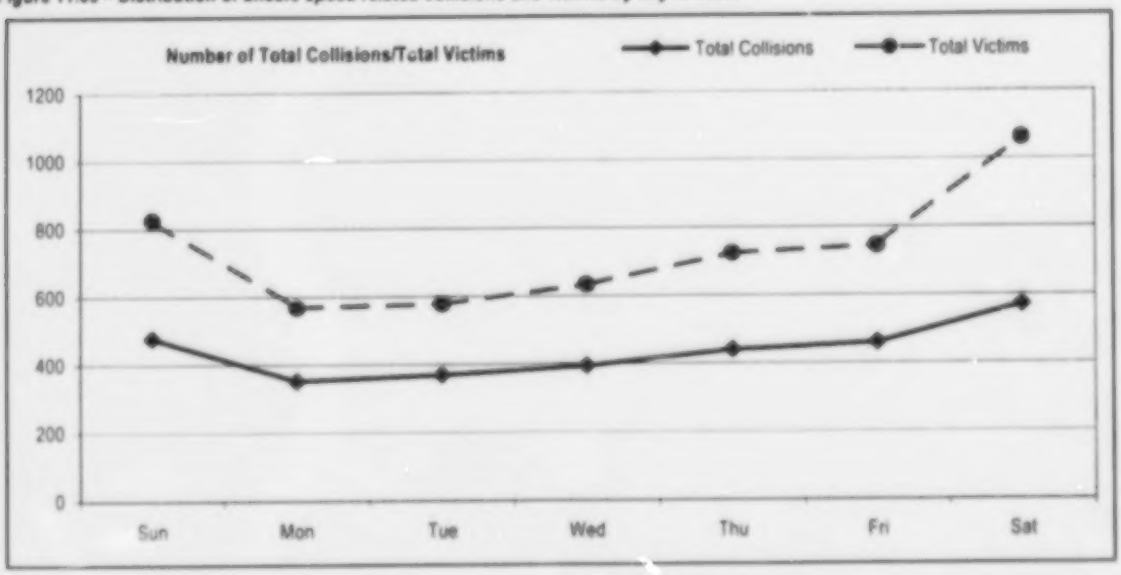


Figure 11.03 – Distribution of unsafe speed related collisions and victims by day of week



Note: Includes both injury and fatal collisions and both injured and killed victims

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 11.03 – Unsafe speed fatal collisions by day of week and by hour of collisions

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total Collisions	% of Total
0000-0059	0	0	0	0	1	0	1	2	1.65
0100-0159	2	0	0	1	2	0	2	7	5.79
0200-0259	1	0	2	1	0	1	3	8	6.61
0300-0359	2	0	0	0	0	1	2	5	4.13
0400-0459	1	0	0	0	0	1	2	4	3.31
0500-0559	2	0	0	0	0	0	0	2	1.65
0600-0659	0	1	0	0	0	0	1	2	1.65
0700-0759	0	0	0	2	0	0	0	2	1.65
0800-0859	0	1	1	1	0	0	1	4	3.31
0900-0959	1	0	0	0	1	1	1	4	3.31
1000-1059	0	0	0	0	0	0	2	2	1.65
1100-1159	0	0	1	0	1	1	1	4	3.31
1200-1259	2	0	0	0	0	0	0	2	1.65
1300-1359	1	1	0	0	3	0	2	7	5.79
1400-1459	0	1	0	2	0	1	2	6	4.96
1500-1559	0	1	0	0	0	2	2	5	4.13
1600-1659	2	1	1	0	1	0	0	5	4.13
1700-1759	1	0	0	0	1	0	2	4	3.31
1800-1859	0	0	2	1	1	3	0	7	5.79
1900-1959	2	1	0	1	1	2	3	10	8.26
2000-2059	2	0	0	0	0	0	3	5	4.13
2100-2159	4	1	1	1	0	2	1	10	8.26
2200-2259	0	1	1	2	1	2	2	9	7.44
2300-2359	0	0	1	0	1	2	1	5	4.13
Unknown									0.00
Total	**23**	**9**	**10**	**12**	**14**	**19**	**34**	**121**	**100%**

Table 11.04 – Driver age by collision type in collisions resulting from unsafe speed – Drivers travelling at unsafe speed

Driver Age	Injury	Fatal	Total
13	2	0	2
14	5	0	5
15	16	1	17
16	169	6	175
17	176	5	181
18	223	9	232
19	218	7	225
20	150	5	155
21	129	7	136
22	113	4	117
23	96	5	101
24	92	4	96
25	82	6	88
26-30	362	13	375
31-35	277	15	292
36-40	242	10	252
41-45	179	7	186
46-50	92	5	97
51-55	70	3	73
56-60	57	1	58
61-65	41	1	42
66-70	33	3	36
71-75	21	1	22
76-80	21	1	22
81-85	10	1	11
86-90	2	0	2
Unknown	79	0	79
Total	2,957	120	3,077

Table 11.05 – Driver age by collision type in collisions resulting from unsafe speed – all drivers

Driver Age	Injury	Fatal	Total
13	2	0	2
14	5	0	5
15	16	1	17
16	194	6	200
17	197	5	202
18	273	13	286
19	256	9	265
20	188	6	194
21	168	9	177
22	144	6	150
23	119	5	124
24	131	6	137
25	120	11	131
26-30	509	17	526
31-35	430	20	450
36-40	463	13	476
41-45	345	14	359
46-50	215	9	224
51-55	183	7	190
56-60	116	5	121
61-65	85	8	93
66-70	67	4	71
71-75	48	2	50
76-80	36	1	37
81-85	16	1	17
86-90	2	0	2
Unknown	95	0	95
Total	4,423	178	4,601

Table 11.06 – Driver age by gender in collisions resulting from unsafe speed – Drivers travelling at unsafe speed

	Injury			Fatal		
Driver Age	Male	Female	Total	Male	Female	Total
13	0	2	2	0	0	0
14	3	2	5	0	0	0
15	12	4	16	1	0	1
16	120	49	169	4	2	6
17	130	46	176	3	2	5
18	179	44	223	8	1	9
19	172	46	218	5	2	7
20	118	32	150	5	0	5
21	105	24	129	6	1	7
22	91	22	113	4	0	4
23	79	17	96	5	0	5
24	73	19	92	4	0	4
25	59	23	82	6	0	6
26-30	275	87	362	9	4	13
31-35	215	62	277	12	3	15
36-40	185	57	242	9	1	10
41-45	139	40	179	7	0	7
46-50	66	26	92	4	1	5
51-55	46	24	70	3	0	3
56-60	44	13	57	1	0	1
61-65	29	12	41	0	1	1
66-70	25	8	33	3	0	3
71-75	14	7	21	0	1	1
76-80	13	8	21	1	0	1
81-85	7	3	10	1	0	1
86-90	2	0	2	0	0	0
Unknown	6	3	9	0	0	0
Total	2,287	680	2,967	101	19	120

Note: This report does not include drivers whose gender were unknown.

Table 11.07 – Driver age by gender in collisions resulting from unsafe speed – All drivers

	Injury			Fatal		
Driver Age	Male	Female	Total	Male	Female	Total
13	0	2	2	0	0	0
14	3	2	5	0	0	0
15	12	4	16	1	0	1
16	134	60	194	4	2	6
17	137	60	197	3	2	5
18	210	63	273	11	2	13
19	196	60	256	7	2	9
20	140	48	188	5	1	6
21	132	36	168	6	3	9
22	104	40	144	6	0	6
23	94	25	119	5	0	5
24	98	33	131	5	1	6
25	83	37	120	9	2	11
26-30	369	140	509	12	5	17
31-35	325	105	430	16	4	20
36-40	325	138	463	12	1	13
41-45	241	104	345	12	2	14
46-50	141	74	215	6	3	9
51-55	132	51	183	6	1	7
56-60	85	31	116	5	0	5
61-65	61	24	85	5	3	8
66-70	50	17	67	3	1	4
71-75	39	9	48	1	1	2
76-80	23	13	36	1	0	1
81-85	11	5	16	1	0	1
86-90	2	0	2	0	0	0
Unknown	8	3	11	0	0	0
Total	3,155	1,184	4,339	142	36	178

Note: This report does not include drivers whose gender were unknown.

Figure 11.04 – Drivers travelling at unsafe speed involved in collisions

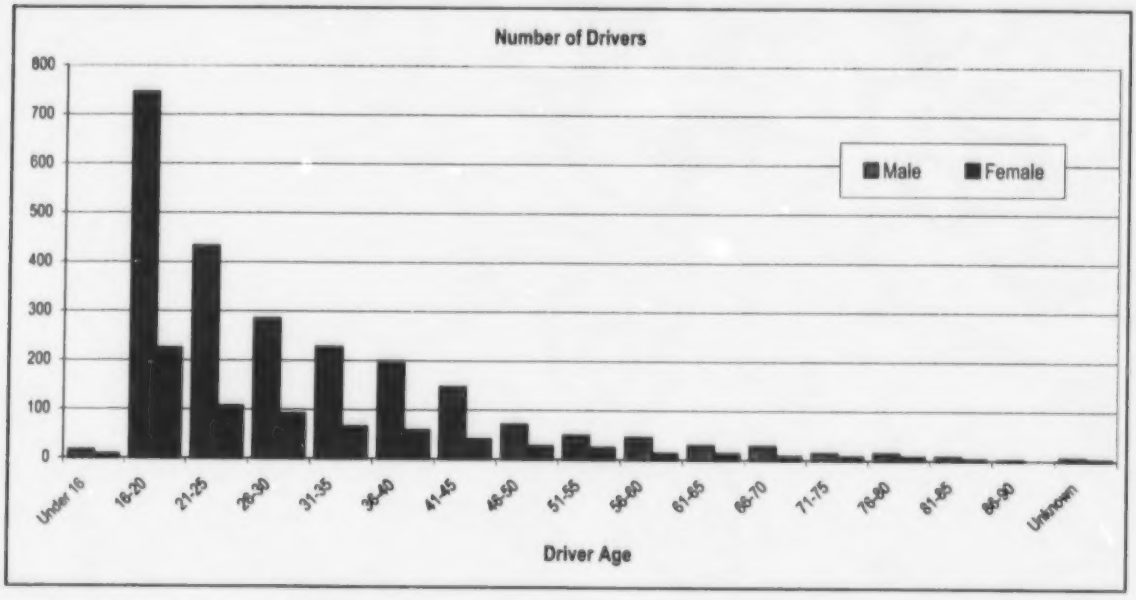


Figure 11.05 – All Drivers involved in collisions resulting from unsafe speed

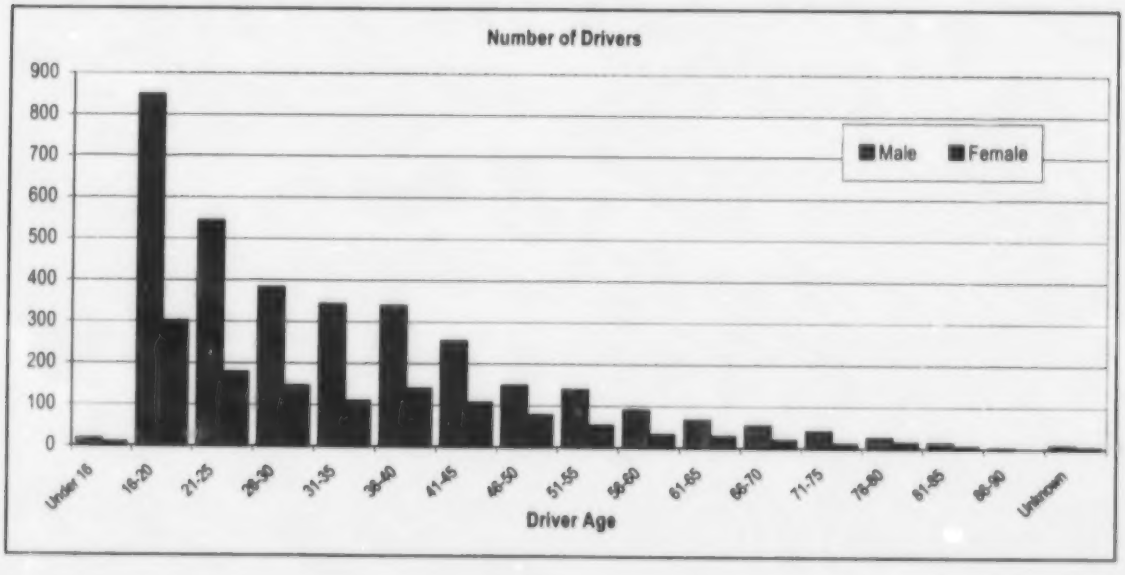


Table 11.08 – Licensed drivers and drivers involved in unsafe speed related collisions (drivers travelling at unsafe speed only) by age

	Licensed Drivers	% of Total Driver Population	# of Drivers Involved in Injury and Fatal Collisions	% of Total Drivers Involved in Injury and Fatal Collisions**
Under 16*	0	0.00	24	0.80
16	29,845	0.86	175	5.84
17	41,357	1.20	181	6.04
18	44,009	1.27	232	7.74
19	45,941	1.33	225	7.51
20	47,340	1.37	155	5.17
21	49,025	1.42	136	4.54
22	50,857	1.47	117	3.90
23	53,216	1.54	101	3.37
24	55,891	1.62	96	3.20
25	57,918	1.68	88	2.94
26-30	342,067	9.90	375	12.51
31-35	388,594	11.25	292	9.74
36-40	429,048	12.42	252	8.41
41-45	398,873	11.55	186	6.20
46-50	342,348	9.91	97	3.24
51-55	267,038	7.73	73	2.43
56-60	191,344	5.54	58	1.93
61-65	152,005	4.40	42	1.40
66-70	137,722	3.99	36	1.20
71-75	115,890	3.35	22	0.73
76-80	90,858	2.63	22	0.73
80+	123,694	3.58	13	0.43
Total	**3,454,878**	**100%**	**2,998**	**100%**

Note: This report does not include drivers whose age is unknown.

* Includes unlicensed and bicycle drivers.

** Total number of collision involved drivers in the age group as a percentage of the total number of drivers involved in personal injury and fatal collisions.

Table 11.09 – Victims injured by victim age and road user class in collisions resulting from unsafe speed

Victim Age	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Motorcycle Driver	Motorcycle Passenger	Other	Unknown	Total
1	0	10	0	0	0	0	0	0	1	11
2	0	8	0	0	0	0	0	0	1	9
3	0	10	0	0	0	0	0	0	0	10
4	0	10	0	0	0	0	0	0	0	10
5	0	13	0	0	0	0	0	0	0	13
6	0	8	0	0	0	0	0	0	0	8
7	0	14	0	0	0	0	0	0	0	14
8	0	7	0	0	1	0	0	0	0	8
9	0	12	0	1	3	0	0	0	0	16
10	0	12	0	0	2	0	0	0	0	14
11	0	15	0	0	2	0	0	0	0	18
12	0	15	0	2	1	0	1	0	0	19
13	2	22	0	1	3	0	0	0	1	29
14	4	41	0	1	3	0	0	0	2	51
15	10	89	0	0	0	2	1	0	1	103
16	119	156	0	2	0	1	0	1	3	282
17	123	167	0	1	1	0	0	0	7	299
18	177	134	0	3	0	4	0	0	2	320
19	178	132	1	1	2	6	0	1	1	322
20	122	97	0	0	3	8	1	0	2	233
21	119	77	1	2	1	5	2	0	2	209
22	108	60	0	3	0	6	0	0	1	178
23	81	45	0	1	1	6	1	0	1	136
24	84	40	0	0	0	5	0	0	1	130
25	80	31	0	1	1	6	0	0	1	120
26-30	313	128	0	1	8	18	2	2	5	477
31-35	266	82	0	6	4	20	2	0	1	383
36-40	303	73	0	2	4	6	1	0	2	391
41-45	201	53	0	1	3	8	0	0	2	268
46-50	134	41	0	1	0	5	0	0	1	182
51-55	99	42	0	0	1	5	0	0	0	147
56-60	75	32	0	1	0	0	0	0	1	109
61-65	48	21	0	1	2	0	0	0	0	70
66-70	35	18	0	1	0	1	0	0	0	55
71-75	28	17	0	1	0	0	0	0	0	46
76-80	23	15	0	1	0	0	0	0	0	39
81-85	9	2	0	1	0	0	0	0	0	12
86-90	1	2	0	1	0	0	0	0	0	4
91-95	0	1	0	0	0	0	0	0	0	1
95+	0	1	0	0	0	0	0	0	0	1
Unknown	27	185	2	7	3	1	2	2	9	238
Total	2,787	1,939	4	48	49	113	14	8	48	4,998

Table 11.10 – Victims killed by victim age and road user class in collisions resulting from unsafe speed

Victim Age	Driver	Passenger	Pedestrian	Bicycle Driver	Motorcycle Driver	Unknown	Total
9	0	1	0	0	0	0	1
10	0	1	0	0	0	0	1
12	0	0	0	1	0	0	1
14	0	3	0	0	0	0	3
15	1	2	0	0	0	0	3
16	2	3	0	0	0	0	5
17	3	5	0	0	0	0	8
18	5	2	0	0	0	0	7
19	2	2	0	0	0	0	4
20	5	2	1	0	0	1	9
21	5	4	0	0	1	0	10
22	2	2	0	0	0	0	4
23	3	1	0	0	0	0	4
24	4	0	0	0	1	0	5
25	4	3	0	0	0	0	7
26-30	9	3	0	0	3	0	15
31-35	11	1	0	0	2	0	14
36-40	5	0	0	0	2	0	7
41-45	6	2	0	0	2	0	10
46-50	5	0	0	0	1	0	6
51-55	4	2	0	0	0	0	6
56-60	1	0	0	0	0	0	1
61-65	4	0	0	0	0	0	4
66-70	2	0	1	0	1	0	4
71-75	1	0	1	0	0	0	2
76-80	0	1	0	0	0	0	1
81-85	1	0	0	0	0	0	1
86-90	0	1	0	0	0	0	1
Unknown	0	1	0	0	0	0	1
Total	85	42	3	1	13	1	145

Table 11.11 – Victims injured by victim age and road user class in collisions in vehicles travelling at unsafe speed

Victim Age	Driver	Passenger	Hanging on	Bicycle Driver	Motorcycle Driver	Motorcycle Passenger	Other	Unknown	Total
1	0	7	0	0	0	0	0	0	7
2	0	3	0	0	0	0	0	1	4
3	0	8	0	0	0	0	0	0	8
4	0	5	0	0	0	0	0	0	5
5	0	9	0	0	0	0	0	0	9
6	0	3	0	0	0	0	0	0	3
7	0	10	0	0	0	0	0	0	10
8	0	2	0	0	0	0	0	0	2
9	0	8	0	2	0	0	0	0	10
10	0	5	0	2	0	0	0	0	7
11	0	7	0	1	0	0	0	0	8
12	0	8	0	1	0	1	0	0	10
13	2	17	0	1	0	0	0	1	21
14	4	31	0	3	0	0	0	2	40
15	10	77	0	0	2	1	0	1	91
16	105	142	0	0	1	0	1	3	252
17	115	143	0	1	0	0	0	7	266
18	148	114	0	0	4	0	0	2	268
19	156	120	1	2	6	0	1	1	287
20	99	80	0	3	8	1	0	2	193
21	93	63	1	1	5	2	0	2	167
22	86	51	0	0	5	0	0	1	143
23	69	38	0	1	6	1	0	1	116
24	58	34	0	0	5	0	0	1	98
25	58	22	0	1	5	0	0	1	87
26-30	233	101	0	7	17	2	2	5	367
31-35	190	60	0	3	20	2	0	1	276
36-40	178	42	0	2	6	1	0	1	230
41-45	123	32	0	2	7	0	0	2	166
46-50	66	20	0	0	5	0	0	0	91
51-55	44	24	0	1	5	0	0	0	74
56-60	44	19	0	0	0	0	0	1	64
61-65	25	10	0	1	0	0	0	0	36
66-70	20	8	0	0	1	0	0	0	29
71-75	17	7	0	0	0	0	0	0	24
76-80	14	6	0	0	0	0	0	0	20
81-85	7	1	0	0	0	0	0	0	8
86-90	1	1	0	0	0	0	0	0	2
95+	0	1	0	0	0	0	0	0	1
Unknown	15	139	1	1	1	2	2	9	170
Total	1,978	1,478	3	36	109	13	8	45	3,668

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 11.06 – Victims injured in unsafe speed related collisions in/not in vehicle travelling at unsafe speed

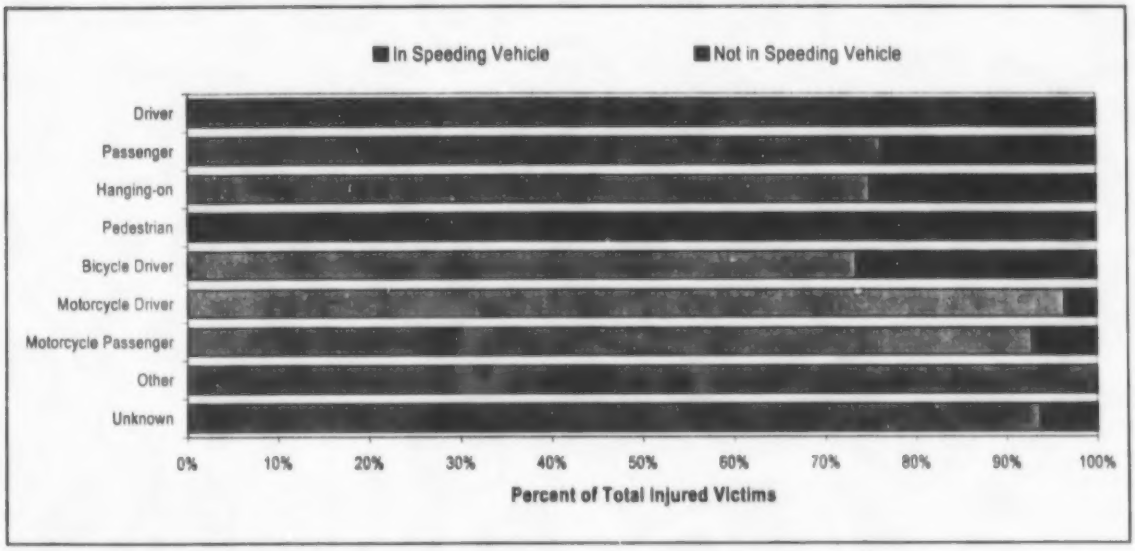


Table 11.12 – Victims killed by victim age and road user class in collisions in vehicles travelling at unsafe speed

Victim Age	Driver	Passenger	Bicycle Driver	Motorcycle Driver	Unknown	Total
10	0	1	0	0	0	1
12	0	0	1	0	0	1
14	0	2	0	0	0	2
15	1	2	0	0	0	3
16	2	3	0	0	0	5
17	3	4	0	0	0	7
18	4	2	0	0	0	6
19	2	2	0	0	0	4
20	4	2	0	0	1	7
21	5	4	0	1	0	10
22	1	1	0	0	0	2
23	3	1	0	0	0	4
24	3	0	0	1	0	4
25	3	3	0	0	0	6
26-30	9	3	0	2	0	14
31-35	11	1	0	2	0	14
36-40	5	0	0	2	0	7
41-45	4	1	0	2	0	7
46-50	4	0	0	1	0	5
51-55	2	2	0	0	0	4
61-65	1	0	0	0	0	1
66-70	2	0	0	1	0	3
71-75	1	0	0	0	0	1
76-80	0	1	0	0	0	1
81-85	1	0	0	0	0	1
86-90	0	1	0	0	0	1
Unknown	0	1	0	0	0	1
Total	71	37	1	12	1	122

Figure 11.07 – Victims killed in unsafe speed related collisions in/not in vehicle travelling at unsafe speed

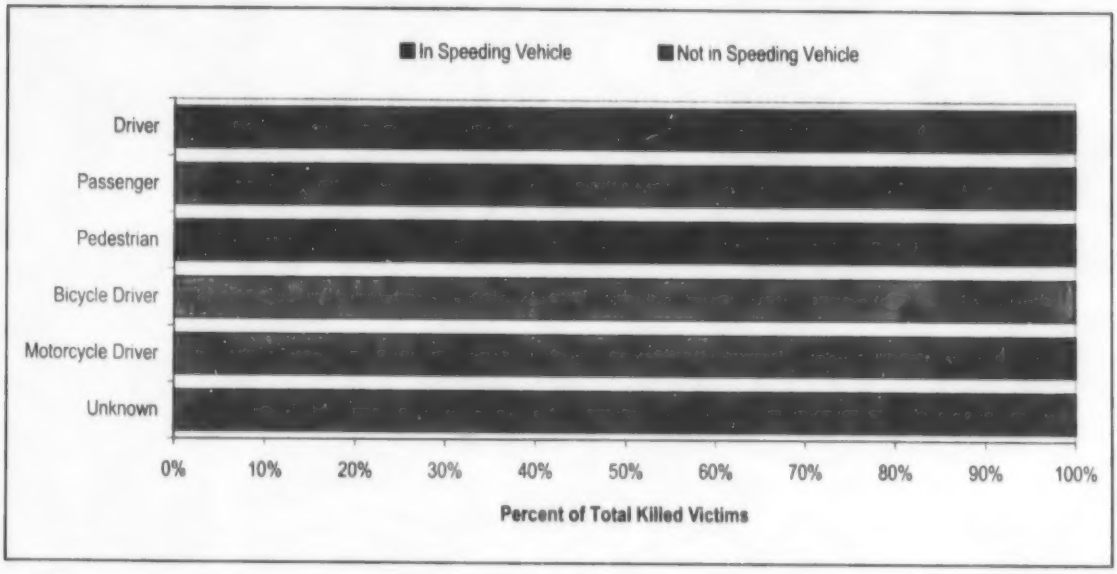


Table 11.13 – Victims injured by victim age and road user class not in vehicles travelling at unsafe speed

Victim Age	Driver	Passenger	Hanging on	Pedestrian	Bicycle Driver	Motorcycle Driver	Motorcycle Passenger	Unknown	Total
1	0	3	0	0	0	0	0	1	4
2	0	5	0	0	0	0	0	0	5
3	0	2	0	0	0	0	0	0	2
4	0	5	0	0	0	0	0	0	5
5	0	4	0	0	0	0	0	0	4
6	0	5	0	0	0	0	0	0	5
7	0	4	0	0	0	0	0	0	4
8	0	5	0	0	1	0	0	0	6
9	0	4	0	1	1	0	0	0	6
10	0	7	0	0	0	0	0	0	7
11	0	9	0	0	1	0	0	0	10
12	0	7	0	2	0	0	0	0	9
13	0	5	0	1	2	0	0	0	8
14	0	10	0	1	0	0	0	0	11
15	0	12	0	0	0	0	0	0	12
16	14	14	0	2	0	0	0	0	30
17	8	24	0	1	0	0	0	0	33
18	31	20	0	3	0	0	0	0	54
19	22	12	0	1	0	0	0	0	35
20	23	17	0	0	0	0	0	0	40
21	26	14	0	2	0	0	0	0	42
22	22	9	0	3	0	1	0	0	35
23	12	7	0	1	0	0	0	0	20
24	26	6	0	0	0	0	0	0	32
25	22	9	0	1	0	1	0	0	33
26-30	80	27	0	1	1	1	0	0	110
31-35	76	22	0	8	1	0	0	0	107
36-40	125	31	0	2	2	0	0	1	161
41-45	78	21	0	1	1	1	0	0	102
46-50	68	21	0	1	0	0	0	1	91
51-55	55	18	0	0	0	0	0	0	73
56-60	31	13	0	1	0	0	0	0	45
61-65	21	11	0	1	1	0	0	0	34
66-70	15	10	0	1	0	0	0	0	26
71-75	11	10	0	1	0	0	0	0	22
76-80	9	9	0	1	0	0	0	0	19
81-85	2	1	0	1	0	0	0	0	4
86-90	0	1	0	1	0	0	0	0	2
91-95	0	1	0	0	0	0	0	0	1
Unknown	12	46	1	7	2	0	1	0	69
Total	**789**	**481**	**1**	**48**	**13**	**4**	**1**	**3**	**1,318**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 11.14 – Victims killed by victim age and road user class in collisions not in vehicles travelling at unsafe speed

Victim Age	Driver	Passenger	Pedestrian	Motorcycle Driver	Total
9	0	1	0	0	1
14	0	1	0	0	1
17	0	1	0	0	1
18	1	0	0	0	1
20	1	0	1	0	2
22	1	1	0	0	2
24	1	0	0	0	1
25	1	0	0	0	1
26-30	0	0	0	1	1
41-45	2	1	0	0	3
46-50	1	0	0	0	1
51-55	2	0	0	0	2
56-60	1	0	0	0	1
61-65	3	0	0	0	3
66-70	0	0	1	0	1
71-75	0	0	1	0	1
Total	14	5	3	1	23

Table 11.15 – Unsafe speed related collisions by speed limit and road jurisdiction – City/Municipal street

Speed Limit	Injury	Fatal	Total
Posted at 10 km/hr	5	0	5
Posted at 20 km/hr	9	0	9
Posted at 30 km/hr	59	1	60
Posted at 40 km/hr	13	0	13
Posted at 50 km/hr	937	32	969
Posted at 60 km/hr	175	9	184
Posted at 70 km/hr	15	1	16
Posted at 80 km/hr	44	4	48
Posted at 90 km/hr	2	0	2
Posted at 110 km/hr	1	0	1
Advisory - 10 km/hr	2	0	2
Advisory - 20 km/hr	1	0	1
Advisory - 30 km/hr	24	0	24
Advisory - 40 km/hr	11	0	11
Advisory - 50 km/hr	88	0	88
Advisory - 60 km/hr	6	1	7
Special - 20 km/hr	1	0	1
Special - 30 km/hr	3	0	3
Special - 50 km/hr	2	0	2
Other	3	1	4
Unknown	108	0	108
Total	1,509	49	1,558

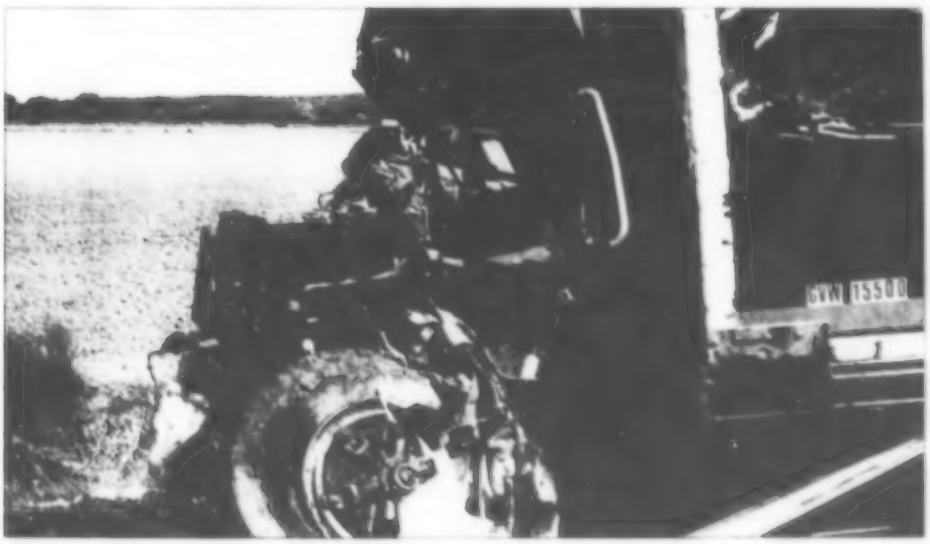


Table 11.16 – Unsafe speed related collisions by speed limit and road jurisdiction – Provincial highway

Speed Limit	Injury	Fatal	Total
Posted at 10 km/hr	4	0	4
Posted at 20 km/hr	1	0	1
Posted at 30 km/hr	11	1	12
Posted at 40 km/hr	6	1	7
Posted at 50 km/hr	161	3	164
Posted at 60 km/hr	123	4	127
Posted at 70 km/hr	64	1	65
Posted at 80 km/hr	200	11	211
Posted at 90 km/hr	181	17	198
Posted at 100 km/hr	142	8	150
Posted at 110 km/hr	53	3	56
Advisory - 20 km/hr	1	0	1
Advisory - 30 km/hr	14	0	14
Advisory - 40 km/hr	22	1	23
Advisory - 50 km/hr	30	1	31
Advisory - 60 km/hr	32	2	34
Advisory - 70 km/hr	8	3	11
Advisory - 80 km/hr	10	1	11
Special - 80 km/hr	3	0	3
Other	2	0	2
Unknown	59	1	60
Total	**1,127**	**58**	**1,185**

Table 11.17 – Unsafe speed related collisions by speed limit and road jurisdiction – Rural road

Speed Limit	Injury	Fatal	Total
Posted at 30 km/hr	6	0	6
Posted at 40 km/hr	4	0	4
Posted at 50 km/hr	78	2	80
Posted at 60 km/hr	65	3	68
Posted at 70 km/hr	7	0	7
Posted at 80 km/hr	62	7	69
Posted at 90 km/hr	1	0	1
Posted at 100 km/hr	1	0	1
Advisory - 20 km/hr	2	0	2
Advisory - 30 km/hr	10	1	11
Advisory - 40 km/hr	6	0	6
Advisory - 50 km/hr	6	0	6
Advisory - 60 km/hr	4	1	5
Advisory - 80 km/hr	3	0	3
Special - 80 km/hr	1	0	1
Other	6	0	6
Unknown	40	0	40
Total	**302**	**14**	**316**

Motorcycles In 1998 Collisions

SECTION 12

There were 55,974 motorcycles licensed in British Columbia in 1998. The number of motorcycles licensed showed an increase of 3.1% from 1997.

In 1998, drivers licensed to operate motorcycles (class 6) totalled 251,218, a 2.7% increase from the previous year.

The number of reported motorcycle drivers killed was 27 in 1998. Two of the fatally injured motorcycle drivers were not wearing helmets. There were no reports of motorcycle passengers killed during the year.

The top five contributing factors assigned to motorcycle drivers (as a percentage of total motorcycle collisions) were, in order of magnitude:

1. Driving without due care (19.1%);
2. Unsafe speed (18.0%);
3. Driver inexperience (11.6%);
4. Alcohol involvement (7.3%);
5. Following too closely (4.0%) and Improper passing (4.0%).

The top five contributing factors assigned to other drivers (as a percentage of total motorcycle collisions) were, in order of magnitude:

1. Failing to yield to right of way (18.9%);
2. Driving without due care (10.6%);
3. Improper Turning (4.8%);
4. Driver Inexperience (2.5%);
5. Cutting in (1.9%).

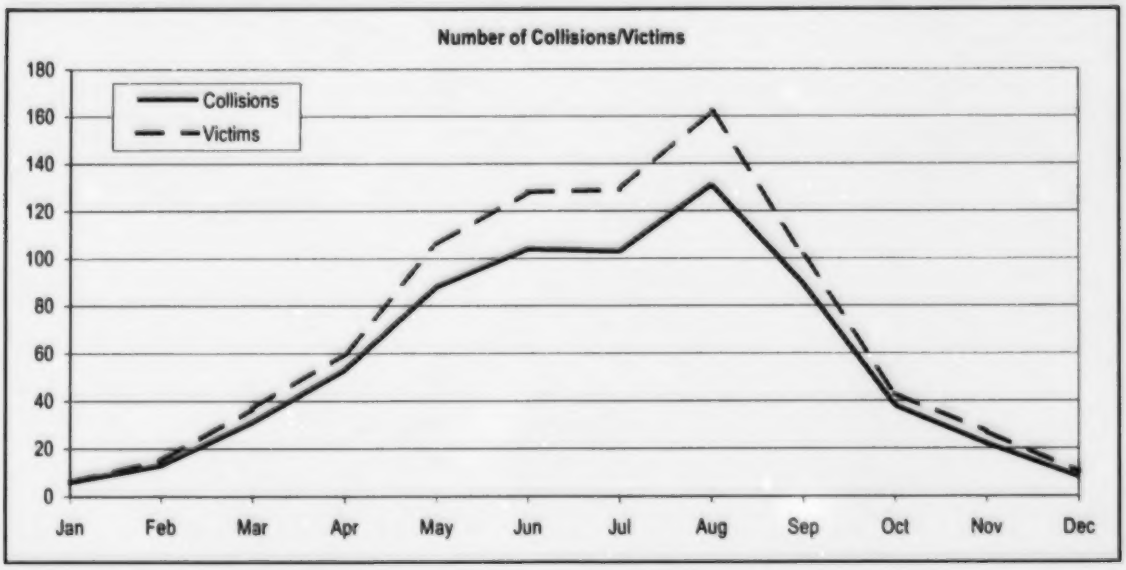
Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 12.01 – Motorcycle collisions and victims by month*

Month	Collisions			Victims		
	Injury	Fatal	Total	Injured	Killed	Total
January	6	0	6	6	0	6
February	13	0	13	15	0	15
March	29	2	31	35	2	37
April	51	2	53	58	2	60
May	84	4	88	102	4	106
June	104	0	104	128	0	128
July	100	3	103	126	3	129
August	122	9	131	153	9	162
September	86	3	89	98	3	101
October	34	4	38	39	4	43
November	21	1	22	26	1	27
December	8	0	8	10	0	10
Total	**858**	**28**	**886**	**796**	**28**	**824**

* Victims include both motorcyclists and occupants of involved motor vehicles.

Figure 12.01 – Motorcycle collisions and victims by month



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 12.02 – Contributing factors in motorcycle collisions – Motorcycle driver factors only: By number of Collisions

Contributing Factors	Injury	Fatal	Total	% of Total Motorcycle Collisions
Driving Without Due Care	124	6	130	19.06
Unsafe Speed	111	12	123	18.04
Driver Inexperience	76	3	79	11.58
Alcohol Involvement	46	4	50	7.33
Failing to Yield Right of Way	29	1	30	4.40
Improper Passing	30	0	30	4.40
Avoiding veh/ped/cycle	26	0	26	3.81
Following too Closely	25	0	25	3.67
Wild Animal	25	0	25	3.67
Weather Condition	18	1	19	2.79
Ignoring Traffic Control Device	16	0	16	2.35
Obstruction/Debris on Road	15	1	16	2.35
Driving on Wrong Side of Road	13	0	13	1.91
Improper Turning	13	0	13	1.91
Other*	256	9	265	38.86
Unknown	87	0	87	12.76

Note: The figures shown above represent the contributing factors assigned to the motorcycle drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total"represents the occurrence of the collisions as a percentage of total motorcycle casualty collisions recorded in British Columbia in 1998

* "Other" includes total collisions less than 10 occurrences.

Figure 12.02 – Top five contributing factors in 1998 motorcycle collisions (motorcycle driver factors only) as a percentage of total motorcycle collisions

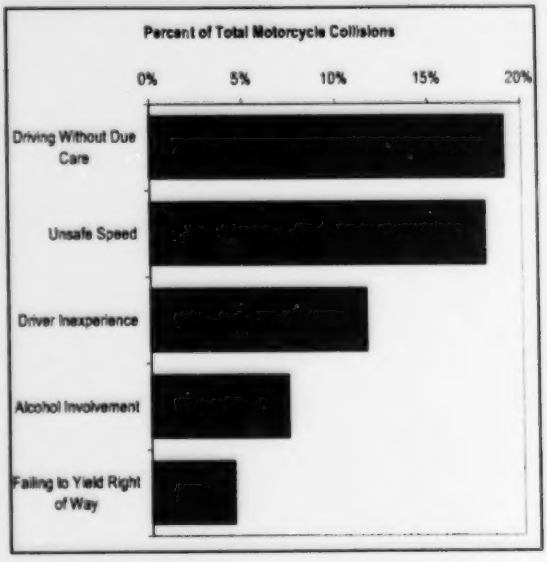


Table 12.03 – Contributing factors in motorcycle collisions – Other driver factors only: By number of Collisions

Contributing Factors	Injury	Fatal	Total	% of Total Motorcycle Collisions
Failing to Yield Right of Way	128	1	129	18.91
Driving Without Due Care	70	2	72	10.56
Improper Turning	33	0	33	4.84
Driver Inexperience	17	0	17	2.49
Cutting In	13	0	13	1.91
Alcohol Involvement	11	1	12	1.76
Following too Closely	12	0	12	1.76
Ignoring Traffic Control Device	11	1	12	1.76
Other*	133	3	136	19.94
Unknown	42	0	42	6.16

Note: The figures shown above represent the contributing factors assigned to drivers, other than motorcycle drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total motorcycle casualty collisions recorded in British Columbia during 1998.

* "Other" includes total collisions less than 10 occurrences.

Figure 12.03 – Top five contributing factors in 1998 motorcycle collisions (other driver factors only) as a percentage of total pedestrian collisions

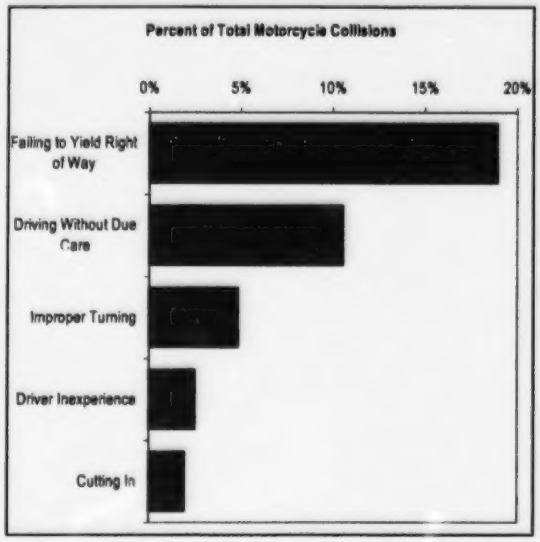


Table 12.04 – Motorcycle collisions by primary collision occurrence

Primary Collision Occurrence	Injury	Fatal	Total	% of Total
Off Road Right	83	9	92	13.41
Left Turn-Across Oncoming Traffic	78	2	80	11.66
Intersection - Right Angle	69	4	73	10.64
Rear End	69	0	69	10.06
Off Road Left	44	3	47	6.85
Head On	24	4	28	4.08
Overtaking	25	0	25	3.64
Side Swipe-Opposite Direction	20	0	20	2.92
Left Turn - Head On	18	0	18	2.62
Left Turn - One Way	8	0	8	1.17
Right Turn - Same Direction	6	0	6	0.87
Backing Up	3	1	4	0.58
Right Turn - Head On	4	0	4	0.58
One Way Street	4	0	4	0.58
Right Turn - Rear End	3	0	3	0.44
Other	168	5	173	25.22
Unknown	32	0	32	4.66
Total	658	28	686	100%

Table 12.05 – Pre-collision action by collision type in motorcycle collisions: Motorcycle drivers

Pre-Collision Action	Injury	Fatal	Total	% of Total
Going Straight Ahead	459	23	482	69.65
Making Left Turn	37	0	37	5.35
Making Right Turn	32	0	32	4.62
Skidding	30	2	32	4.62
Overtaking	22	0	22	3.18
Slowing or Stopping	20	1	21	3.03
Swerving	12	0	12	1.73
Changing Lanes	11	0	11	1.59
Stopped in Traffic	9	0	9	1.30
Avoiding Object on Road	6	0	6	0.87
Starting in Traffic	3	0	3	0.43
Merging	3	0	3	0.43
Yaw	2	1	3	0.43
Making U Turn	2	0	2	0.29
Starting from Parked position	1	0	1	0.14
Parked legally	1	0	1	0.14
Other	9	1	10	1.45
Unknown	5	0	5	0.72
Total	**664**	**28**	**692**	**100%**

Table 12.06 – Pre-collision action by collision type in motorcycle collisions: Other drivers

Pre-Collision Action	Injury	Fatal	Total	% of Total
Making Left Turn	143	4	147	36.93
Going Straight Ahead	131	10	141	35.43
Slowing or Stopping	19	0	19	4.77
Changing Lanes	16	0	16	4.02
Stopped in Traffic	14	0	14	3.52
Making Right Turn	13	0	13	3.27
Making U Turn	6	0	6	1.51
Starting in Traffic	6	0	6	1.51
Overtaking	6	0	6	1.51
Backing	4	1	5	1.26
Starting from Parked position	4	0	4	1.01
Skidding	3	0	3	0.75
Parked legally	2	0	2	0.50
Merging	2	0	2	0.50
Swerving	2	0	2	0.50
Entering Parked Position	1	0	1	0.25
Avoiding Object on Road	1	0	1	0.25
Other	2	0	2	0.50
Unknown	8	0	8	2.01
Total	**383**	**15**	**398**	**100%**

Table 12.07 – Collision location by collision type in motorcycle collisions

Collision Location	Injury	Fatal	Total	% of Total
Between Intersection Exchanges	280	13	293	42.71
At intersection	256	8	264	38.48
Intersection of Road & Driveway or Alley	53	2	55	8.02
Off Highway	20	2	22	3.21
Parking Lot:Single/Multilevel	10	0	10	1.46
Bridge	6	1	7	1.02
Entrance Ramp	7	0	7	1.02
Exit Deceleration lane	3	0	3	0.44
Exit Intersection	3	0	3	0.44
Industrial Road	2	1	3	0.44
Exit Ramp	2	0	2	0.29
Entrance Acceleration Lane	1	0	1	0.15
Enterance Intersection	1	0	1	0.15
Railroad crossing	1	0	1	0.15
Other	5	1	6	0.87
Unknown	8	0	8	1.17
Total	**658**	**28**	**686**	**100%**

Table 12.08 – Motorcycle collisions by roadway surface condition

Roadway Surface Condition	Injury	Fatal	Total	% of Total
Dry	591	26	617	89.94
Wet	61	2	63	9.18
Other	2	0	2	0.29
Unknown	4	0	4	0.58
Total	**658**	**28**	**686**	**100%**

Table 12.09 – Motorcycle collisions by lighting condition

Lighting Condition	Injury	Fatal	Total	% of Total
Daylight	497	19	516	75.22
Dark/Some Illumination	65	5	70	10.20
Dark/Full Illumination	38	0	38	5.54
Dark/No Illumination	26	3	29	4.23
Dusk	25	1	26	3.79
Dawn	3	0	3	0.44
Unknown	4	0	4	0.58
Total	**658**	**28**	**686**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 12.10 – Motorcycle collisions by weather condition

Weather condition	Injury	Fatal	Total	% of Total
Clear	486	20	506	73.76
Cloudy	128	5	133	19.39
Raining	37	2	39	5.69
Fog	1	0	1	0.15
Smog/Smoke	1	0	1	0.15
Strong Wind	0	1	1	0.15
Other	1	0	1	0.15
Unknown	4	0	4	0.58
Total	**658**	**28**	**686**	**100%**

Table 12.11 – Time of day by collision type for motorcycle collisions

Time	Injury	Fatal	Total	% of Total
0000-0059	8	1	9	1.31
0100-0159	6	0	6	0.87
0200-0259	9	2	11	1.60
0300-0359	3	0	3	0.44
0400-0459	3	0	3	0.44
0500-0559	1	0	1	0.15
0600-0659	7	0	7	1.02
0700-0759	15	0	15	2.19
0800-0859	13	0	13	1.90
0900-0959	16	1	17	2.48
1000-1059	14	1	15	2.19
1100-1159	39	0	39	5.69
1200-1259	38	0	38	5.54
1300-1359	48	1	49	7.14
1400-1459	44	5	49	7.14
1500-1559	50	2	52	7.58
1600-1659	66	2	68	9.91
1700-1759	54	3	57	8.31
1800-1859	40	2	42	6.12
1900-1959	52	3	55	8.02
2000-2059	42	2	44	6.41
2100-2159	33	2	35	5.10
2200-2259	22	0	22	3.21
2300-2359	19	1	20	2.92
Unknown	16	0	16	2.33
Total	**658**	**28**	**686**	**100%**

Table 12.12 – Driver age by collision type for motorcycle collisio – All drivers involved

Age	Injury	Fatal	Total	% of Total
9	1	0	1	0.09
10	2	0	2	0.18
12	1	0	1	0.09
13	0	1	1	0.09
14	1	0	1	0.09
15	3	0	3	0.27
16	15	0	15	1.35
17	13	0	13	1.17
18	25	0	25	2.24
19	33	2	35	3.14
20	36	0	36	3.23
21	29	1	30	2.69
22	42	1	43	3.86
23	19	0	19	1.70
24	29	3	32	2.87
25	39	3	42	3.77
26-30	139	7	146	13.09
31-35	129	6	135	12.11
36-40	105	3	108	9.69
41-45	123	4	127	11.39
46-50	83	3	86	7.71
51-55	59	1	60	5.38
56-60	26	4	30	2.69
61-65	21	0	21	1.88
66-70	18	2	20	1.79
71-75	18	1	19	1.70
76-80	14	1	15	1.35
81-85	7	0	7	0.63
86-90	1	0	1	0.09
91-95	1	0	1	0.09
Unknown	40	0	40	3.59
Total	**1,072**	**43**	**1,115**	**100%**

Figure 12.04 – Drivers involved in Motorcycle collisions by age group – All drivers involved

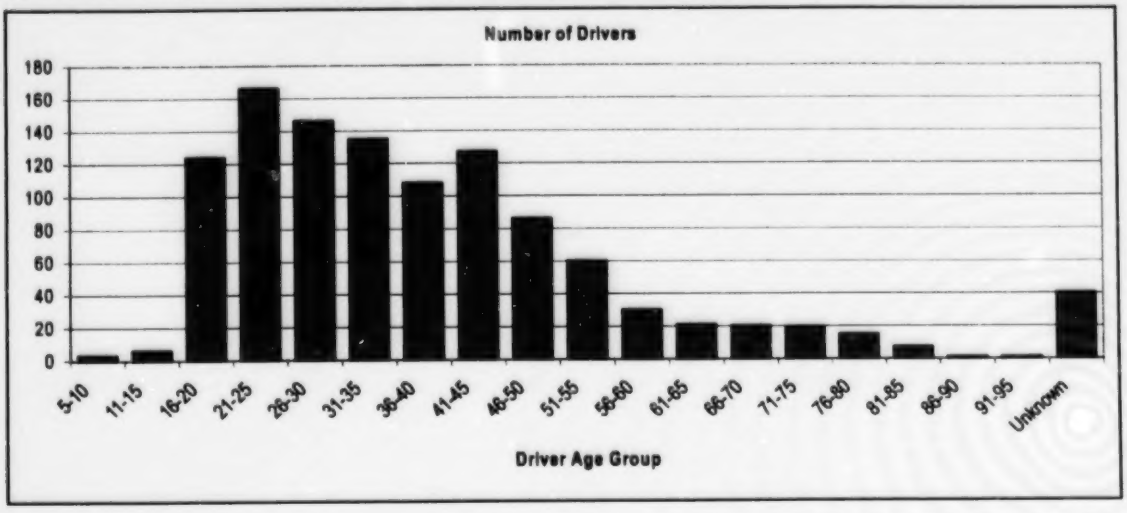


Figure 12.05 – Drivers involved in motorcycle collisions by age group – Motorcycle drivers only

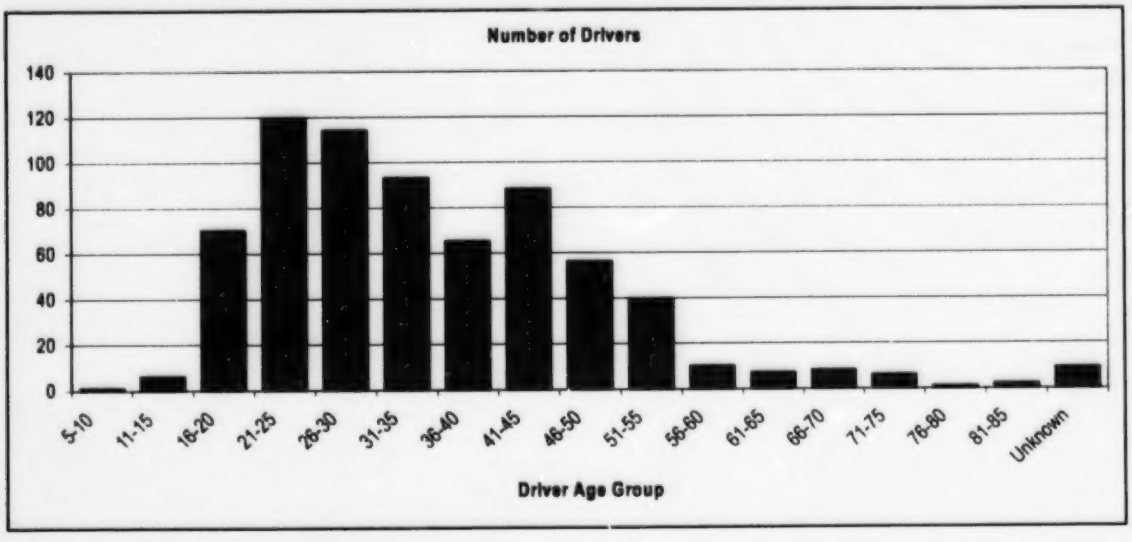


Table 12.13 – Driver age by collision type for motorcycle collision – Motorcycle drivers only

Age	Injury	Fatal	Total	% of Total
10	1	0	1	0.14
12	1	0	1	0.14
13	0	1	1	0.14
14	1	0	1	0.14
15	3	0	3	0.43
16	4	0	4	0.58
17	6	0	6	0.87
18	15	0	15	2.17
19	21	1	22	3.18
20	23	0	23	3.32
21	20	1	21	3.03
22	30	1	31	4.48
23	14	0	14	2.02
24	18	3	21	3.03
25	30	2	32	4.62
26-30	108	6	114	16.47
31-35	89	4	93	13.44
36-40	63	2	65	9.39
41-45	84	3	87	12.57
46-50	54	2	56	8.09
51-55	38	0	38	5.49
56-60	9	1	10	1.45
61-65	7	0	7	1.01
66-70	7	1	8	1.16
71-75	6	0	6	0.87
76-80	1	0	1	0.14
81-85	2	0	2	0.29
Unknown	9	0	9	1.30
Total	**664**	**28**	**692**	**100%**

Table 12.14 – Helmet usage by motorcycle drivers and passengers

Safety Equipment	Not Injured			Injured			Killed	Total Involved	% of Total Involved
	Drivers	Passengers	Total	Drivers	Passengers	Total	Drivers		
Helmet	22	8	30	402	81	483	24	517	65.2
No Helmet	0	2	2	23	3	26	2	30	3.8
Unknown	15	2	17	205	23	228	1	246	31.0
Total	**37**	**12**	**49**	**630**	**87**	**717**	**27**	**793**	**100%**

Note: This report includes occupants in/on parked motorcycle.

Table 12.15 – Motorcycle drivers and passengers injured and killed by helmet usage and location of injury in motorcycle collisions

Safety Equipment	Injury Location	Injured			Killed		
		Drivers	Passengers	Total Injured	Drivers	Passengers	Total Killed
Helmet	Head	30	2	32	8	0	8
	Face/Nose	13	5	18	0	0	0
	Eye	1	0	1	0	0	0
	Neck	17	2	19	3	0	3
	Chest	8	2	10	4	0	4
	Back	41	4	45	0	0	0
	Shoulder/Upper Arm	32	6	38	0	0	0
	Elbow/Lower Arm/Hand	55	9	64	0	0	0
	Abdomen/Pelvis	8	0	8	1	0	1
	Hip/Upper Leg	43	8	51	0	0	0
	Knee/Lower Leg/Foot	121	16	137	0	0	0
	Entire Body	21	6	27	7	0	7
	Unknown	12	1	13	1	0	1
	Total Helmet	**402**	**61**	**463**	**24**	**0**	**24**
							0
No Helmet	Head	7	0	7	2	0	2
	Neck	2	0	2	0	0	0
	Chest	1	0	1	0	0	0
	Back	2	1	3	0	0	0
	Shoulder/Upper Arm	1	0	1	0	0	0
	Abdomen/Pelvis	1	1	2	0	0	0
	Hip/Upper Leg	1	0	1	0	0	0
	Knee/Lower Leg/Foot	4	0	4	0	0	0
	Entire Body	2	1	3	0	0	0
	Unknown	2	0	2	0	0	0
	Total No Helmet	**23**	**3**	**26**	**2**	**0**	**2**
Unknown	Head	13	2	15	0	0	0
	Face/Nose	9	0	9	0	0	0
	Neck	7	3	10	0	0	0
	Chest	8	0	8	0	0	0
	Back	11	1	12	0	0	0
	Shoulder/Upper Arm	25	3	28	0	0	0
	Elbow/Lower Arm/Hand	29	2	31	0	0	0
	Abdomen/Pelvis	5	0	5	0	0	0
	Hip/Upper Leg	12	2	14	1	0	1
	Knee/Lower Leg/Foot	54	8	62	0	0	0
	Entire Body	16	2	18	0	0	0
	Unknown	16	0	16	0	0	0
	Total Unknown	**205**	**23**	**228**	**1**	**0**	**1**
Total		**630**	**87**	**717**	**27**	**0**	**27**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 12.16 – Motorcycle drivers and passengers injured and killed by helmet usage and injury type

Safety Equipment	Injury Type	Injured			Killed
		Drivers	Passengers	Total Injured	Drivers
Helmet	Abrasion	81	18	99	0
	Bruises	104	16	120	1
	Lacerations	35	5	40	0
	Bleeding	26	4	30	6
	Fracture	90	12	102	10
	Dislocation	13	0	13	0
	Amputations	2	0	2	0
	Concussion	11	0	11	3
	Whiplash	9	1	10	0
	Other	1	0	1	3
	Unknown	30	5	35	1
	Total	**402**	**61**	**463**	**24**
No Helmet	Abrasion	4	1	5	0
	Bruises	3	1	4	0
	Lacerations	3	0	3	0
	Bleeding	2	0	2	2
	Fracture	5	0	5	0
	Dislocation	1	0	1	0
	Whiplash	2	0	2	0
	Unknown	3	1	4	0
	Total	**23**	**3**	**26**	**2**
Unknown	Abrasion	48	10	58	0
	Bruises	53	3	56	0
	Lacerations	10	2	12	0
	Bleeding	15	0	15	1
	Fracture	40	3	43	0
	Dislocation	7	0	7	0
	Burns	1	0	1	0
	Concussion	5	2	7	0
	Whiplash	6	2	8	0
	Other	1	0	1	0
	Unknown	21	1	22	0
	Total	**205**	**23**	**228**	**1**
Total		**630**	**87**	**717**	**27**

Note: This report includes occupants in/on parked motorcycles.

Pedestrian in 1998 Collisions

SECTION 13

There were 1,753 reported traffic collisions that involved pedestrians in 1998. There were 1,934 persons (including occupants of motor vehicles) injured or killed in collisions involving pedestrians, with pedestrians accounting for 95.6% of the casualties.

There were 1,787 pedestrians reported injured in traffic collisions during 1998. The number of pedestrians killed was 61.

Of all the 61 pedestrians killed, 25 (41.0%) were over the age of 60, 6 (9.8%) were between 21 and 30 and 4 (6.6%) were aged under 16. Of all the 1,787 injured, 316 (17.7%) were aged 60 and over, 317 (17.7%) were between 21 and 30 and 305 (17.1%) were under the age of 16.

Of all pedestrian collisions in 1998, approximately 51.4% of them occurred at intersections. Notably, 57.4% of all fatal pedestrian collisions occurred at non-intersection locations. Of these fatal collisions, 34.3% of the pedestrians were crossing with no signal, and no crosswalk.

The top five contributing factors assigned to pedestrians (as a percentage of total pedestrian collisions) were, in order of magnitude:

1. Pedestrian error/confusion (22.4%);
2. Alcohol involvement (6.3%);
3. Failing to yield to right of way (5.8%);
4. Ignoring traffic control device (2.9%);
5. Weather condition (1.8%).

The top five contributing factors assigned to other drivers (as a percentage of total pedestrian collisions) were, in order of magnitude:

1. Failing to yield to right of way (23.0%);
2. Driving without due care (19.6%);
3. Weather condition (9.8%);
4. Visibility impaired (4.2%);
5. Backing unsafely (4.1%).

Table 13.01 – Pedestrian collisions and victims* by month

	Collisions			Victims		
Month	Injury	Fatal	Total	Injured	Killed	Total
January	167	2	169	178	2	180
February	139	2	141	156	2	158
March	141	8	149	152	8	160
April	132	7	139	146	7	153
May	119	3	122	135	3	138
June	104	4	108	110	4	114
July	114	9	123	131	9	140
August	106	3	109	120	3	123
September	150	7	157	171	7	178
October	133	3	136	150	3	153
November	204	6	210	217	6	223
December	183	7	190	207	7	214
Total	1,692	61	1,753	1,873	61	1,934

* Victims include both pedestrians and occupants of involved motor vehicles.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Figure 13.01 – Pedestrian collisions and victims by month (includes both pedestrians and occupants of involved motor vehicles)

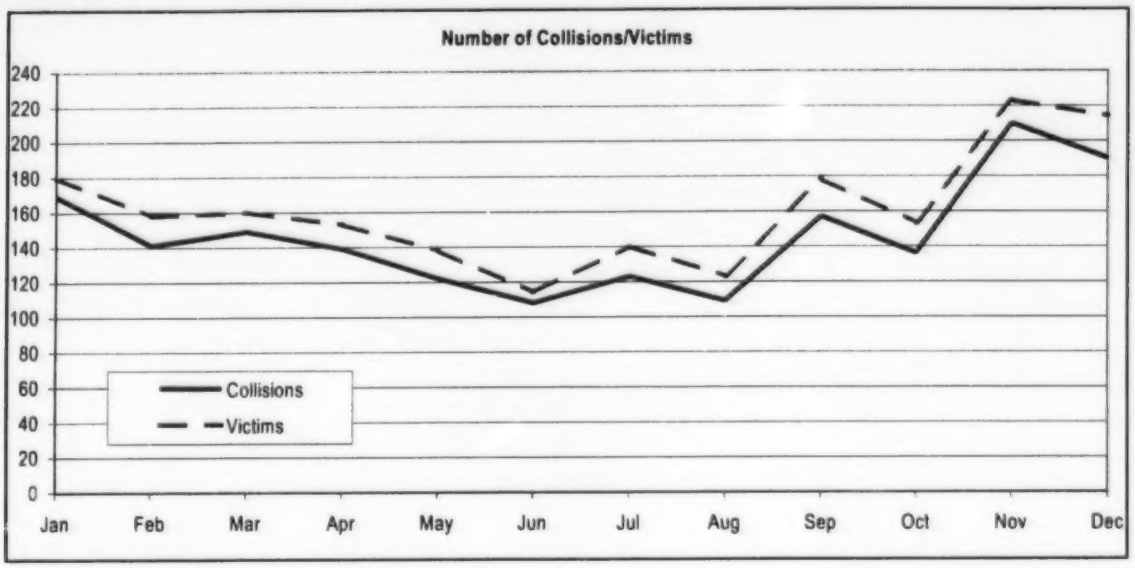


Table 13.02 – Pedestrian involved collisions by pedestrian action and pedestrian location and collision type

	At Intersection			Not at Intersection			Unknown			
Pedestrian Action	**Injury**	**Fatal**	**Total**	**Injury**	**Fatal**	**Total**	**Injury**	**Fatal**	**Total**	**Collisions**
Crossing-No Signal No Crosswalk	167	7	174	302	12	314	2	0	2	490
Crossing with Signal	292	2	294	4	0	4	0	0	0	298
Crossing - No Signal- Marked Crosswalk	176	8	184	25	0	25	1		1	210
Crossing Against Signal	110	3	113	12	0	12	1	0	1	126
Emerging from from/behind parked vehicle	4	0	4	96	2	98	0	0	0	102
Standing on Sidewalk	16	0	16	38	3	41	1	0	1	58
Playing in Roadway	6	0	6	32	3	35	1	0	1	42
Walking along Highway-with Traffic	2	0	2	35	4	39	0	0	0	41
Walking along Highway - Against Traffic	9	0	9	22	0	22	0	0	0	31
Working in Roadway	6	0	6	24	0	24	0	0	0	30
Pushing/Working on a Car	1	0	1	14	0	14	0	0	0	15
Adult Getting on/Off Vehicle	0	0	0	9	1	10	0	0	0	10
Child Getting on/Off School Bus	0	0	0	0	1	1	0	0	0	1
Other	70	4	74	165	9	174	10	0	10	258
Unknown	16	2	18	20	0	20	3	0	3	41
Total	**875**	**26**	**901**	**798**	**35**	**833**	**19**	**0**	**19**	**1,753**

Note: This report counts pedestrian collisions, not victims.

Figure 13.02 – Pedestrian involved collisions by collision location

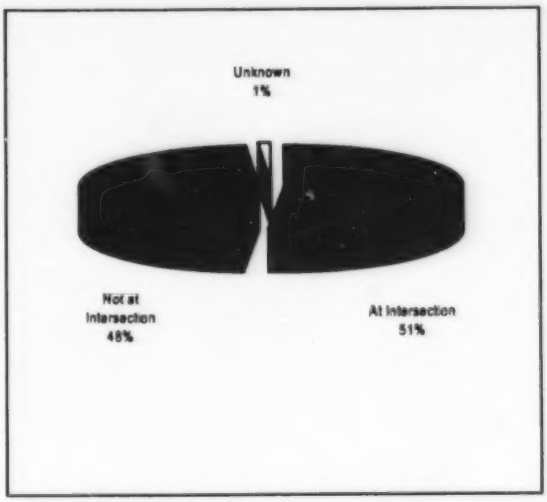
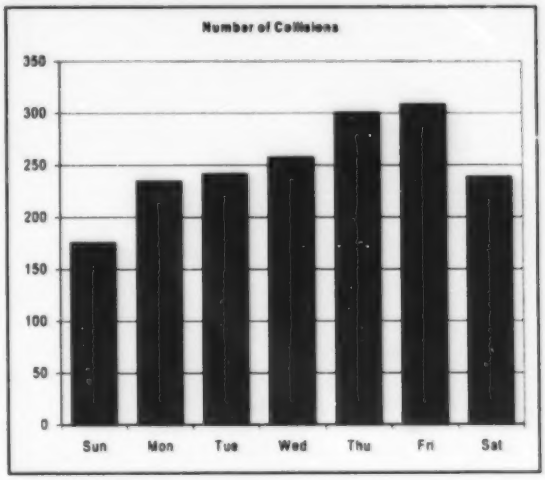


Figure 13.03 – Pedestrian involved collisions by day of week



Note: Includes both injury and fatal collisions.

Table 13.03 – Pedestrian involved collisions: Collision hour by day of week – Injury collisions only

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	% of Total
0000-0059	12	0	7	3	2	2	10	36	2.13
0100-0159	10	4	4	2	3	7	9	39	2.30
0200-0259	11	1	3	0	5	3	9	32	1.89
0300-0359	6	1	0	2	3	2	3	17	1.00
0400-0459	2	1	0	0	3	1	1	8	0.47
0500-0559	0	0	1	1	1	2	0	5	0.30
0600-0659	2	4	2	4	3	4	2	21	1.24
0700-0759	0	5	5	7	9	8	0	34	2.01
0800-0859	1	15	14	14	18	18	6	84	4.96
0900-0959	2	8	8	11	9	8	5	47	2.78
1000-1059	5	11	9	14	10	21	8	78	4.61
1100-1159	7	8	10	9	18	12	9	73	4.31
1200-1259	5	14	13	15	18	13	13	91	5.38
1300-1359	6	9	10	19	15	12	16	87	5.14
1400-1459	5	21	15	18	21	18	13	109	6.44
1500-1559	5	22	17	30	21	23	16	134	7.92
1600-1659	14	21	19	19	21	28	21	143	8.45
1700-1759	14	25	21	21	30	25	18	154	9.10
1800-1859	20	12	22	25	17	19	19	134	7.92
1900-1959	8	15	22	16	14	25	14	114	6.74
2000-2059	13	13	9	11	10	12	9	77	4.55
2100-2159	8	8	7	5	19	9	10	64	3.78
2200-2259	4	6	4	3	9	12	10	48	2.84
2300-2359	4	4	3	4	5	8	6	34	2.01
Unknown	2	1	7	2	7	6	4	29	1.71
Total	**164**	**227**	**230**	**253**	**289**	**298**	**231**	**1,692**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 13.04 – Pedestrian involved collisions: Collision hour by day of week – Fatal collisions only

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	% of Total
0000-0059	1	0	0	0	1	0	2	4	6.56
0100-0159	1	0	0	0	0	0	1	2	3.28
0200-0259	0	0	1	0	0	0	1	2	3.28
0500-0559	0	0	1	0	0	0	0	1	1.64
0600-0659	0	0	0	0	1	0	0	1	1.64
0700-0759	1	0	1	2	0	0	0	4	6.56
0800-0859	0	0	0	0	0	1	0	1	1.64
0900-0959	0	0	0	0	1	0	0	1	1.64
1000-1059	0	2	0	0	0	1	0	3	4.92
1100-1159	0	0	1	0	2	1	0	4	6.56
1200-1259	0	1	0	0	0	0	0	1	1.64
1300-1359	0	1	2	0	1	0	0	4	6.56
1400-1459	0	0	0	0	1	0	1	2	3.28
1500-1559	2	1	1	1	1	1	1	8	13.11
1600-1659	0	1	0	0	1	0	0	2	3.28
1700-1759	0	0	0	1	0	1	0	2	3.28
1800-1859	1	0	0	0	0	1	0	2	3.28
1900-1959	0	0	1	0	0	1	0	2	3.28
2000-2059	1	0	0	0	0	1	0	2	3.28
2100-2159	4	0	2	0	0	1	0	7	11.48
2200-2259	0	0	1	0	1	1	0	3	4.92
2300-2359	0	1	0	0	1	0	1	3	4.92
Total	**11**	**7**	**11**	**4**	**11**	**10**	**7**	**61**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 13.05 – Pedestrian victims injured by age and gender

Age	Male	Female	Total	% of Total
1	5	3	8	0.45
2	6	2	8	0.45
3	5	3	8	0.45
4	7	2	9	0.51
5	7	11	18	1.01
6	8	9	17	0.96
7	8	10	18	1.01
8	9	2	11	0.62
9	13	10	23	1.29
10	12	14	26	1.46
11	13	3	16	0.90
12	20	9	29	1.63
13	13	25	38	2.13
14	21	19	40	2.25
15	19	17	36	2.02
16	19	15	34	1.91
17	13	19	32	1.80
18	22	16	38	2.13
19	17	18	35	1.97
20	16	15	31	1.74
21	24	16	40	2.25
22	19	15	34	1.91
23	16	15	31	1.74
24	19	16	35	1.97
25	12	12	24	1.35
26-30	80	73	153	8.60
31-35	83	50	133	7.47
36-40	66	66	132	7.42
41-45	63	54	117	6.57
46-50	58	53	111	6.24
51-55	33	29	62	3.48
56-60	37	26	63	3.54
61-65	21	28	49	2.75
66-70	33	24	57	3.20
71-75	26	24	50	2.81
76-80	19	22	41	2.30
81-85	6	27	33	1.85
86-90	6	11	17	0.96
91-95	0	4	4	0.22
95+	1	1	2	0.11
Unknown	62	55	117	6.57
Total	**937**	**843**	**1,780**	**100%**

Note: This report does not include pedestrian victims whose gender was unknown.

Figure 13.04 – Proportion of pedestrian victims by gender

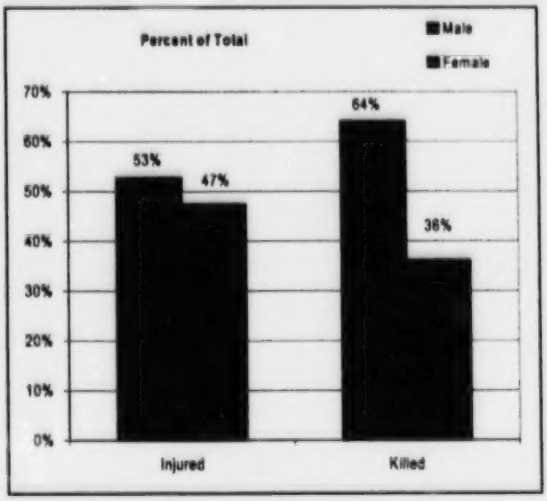


Table 13.06 – Pedestrian victims killed by age and gender

Age	Male	Female	Total	% of Total
2	1	0	1	1.64
5	1	0	1	1.64
9	1	0	1	1.64
14	1	0	1	1.64
17	0	1	1	1.64
18	1	0	1	1.64
19	2	0	2	3.28
20	0	1	1	1.64
21	2	0	2	3.28
23	1	0	1	1.64
24	1	0	1	1.64
26-30	2	0	2	3.28
31-35	4	0	4	6.56
36-40	3	0	3	4.92
41-45	0	1	1	1.64
46-50	8	1	9	14.75
51-55	2	2	4	6.56
61-65	0	2	2	3.28
66-70	1	2	3	4.92
71-75	3	4	7	11.48
76-80	1	4	5	8.20
81-85	1	1	2	3.28
86-90	3	2	5	8.20
91-95	0	1	1	1.64
Total	**39**	**22**	**61**	**100%**

Table 13.07 – Contributing factors in pedestrian involved collisions – Pedestrian factors only: By number of collisions

Contributing Factors	Injury	Fatal	Total	% of Total
Pedestrian Error/Confusion	381	11	392	22.38
Alcohol Involvement	102	9	111	6.33
Failing to Yield Right of Way	101	0	101	5.76
Ignoring Traffic Control Device	48	3	51	2.91
Weather Condition	29	2	31	1.77
Suicide Attempt	9	2	11	0.63
Visibility Impaired	8	1	9	0.51
Drugs (Illegal)	7	0	7	0.40
Physical Disability	5	0	5	0.29
Other*	646	11	657	37.48
Unknown	200	5	205	11.69

Note: The figures shown above represent the contributing factors assigned to the pedestrians involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total pedestrian casualty collisions recorded in British Columbia in 1998.

* "Other" includes total collisions less than 5 occurrences.

Figure 13.06 – Top five contributing factors in pedestrian collisions (other driver factors only) as a percentage of total pedestrian collisions

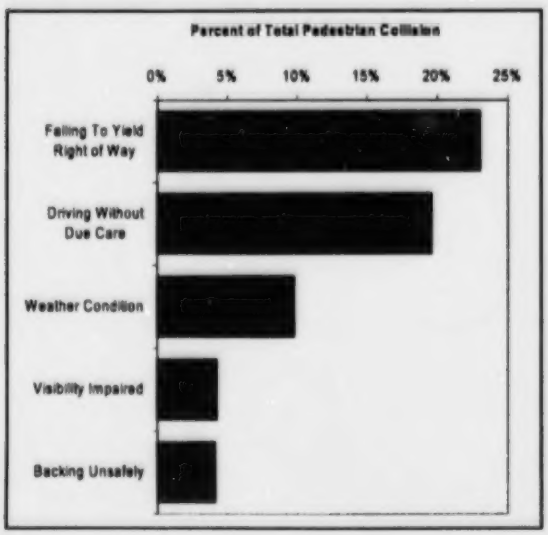


Figure 13.05 – Top five contributing factors in pedestrian collisions (pedestrian factors only) as a percentage of total pedestrian collisions

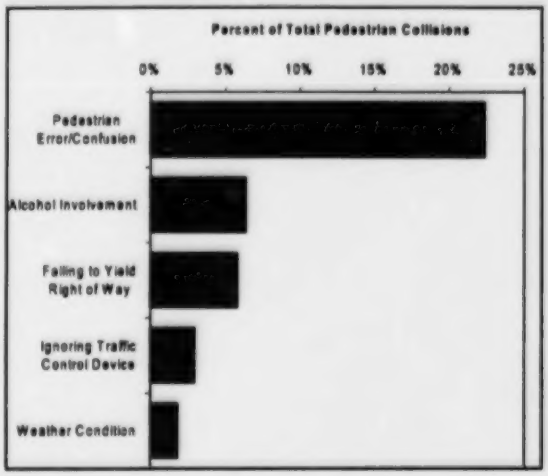


Table 13.08 – Contributing factors in pedestrian involved collisions – Other driver factors only: By number of collisions

Contributing Factors	Injury	Fatal	Total	% of Total
Failing to Yield Right of Way	392	11	403	22.99
Driving Without Due Care	328	15	343	19.57
Weather Condition	166	6	172	9.81
Visibility Impaired	71	3	74	4.22
Backing Unsafely	70	2	72	4.11
Alcohol Involvement	62	7	69	3.94
Pedestrian Error/Confusion	64	2	66	3.76
Driver Inexperience	59	1	60	3.42
Ignoring Traffic Control Device	58	1	59	3.37
Sunlight Glare	42	3	45	2.57
Unsafe Speed	41	3	44	2.51
Improper Turning	29	0	29	1.65
Avoiding veh/ped/cycle	20	2	22	1.25
Improper Passing	19	0	19	1.08
No Driver	13	3	16	0.91
Other*	616	18	634	36.17
Unknown	219	4	223	12.72

Note: The figures shown above represent the contributing factors assigned to drivers, other than pedestrians, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total pedestrian casualty collisions recorded in British Columbia in 1998.

* "Other" includes total collisions less than 10 occurrences.

Table 13.09 – Pedestrians injured and killed by age and pedestrian action

Age	X with Signl	X Agnst Signl	X No Signl Mrked Xwlk	X No Signl No Xwlk	Wlking along Hwy with Traffic	Wlking along Hwy Agnst Traffic	Emrg from/ behind vehicle	Child Getting on/off School Bus	Adult Getting on/off Vehicle	Push/ Work on Car	Work in Rdway	Play in Rdway	Stand on Side-walk	Other	Unknown	Total
1	2	0	0	1	0	0	0	0	0	0	0	2	1	2	0	8
2	2	0	0	4	0	0	1	0	0	0	0	1	0	1	0	9
3	0	0	2	3	0	0	2	0	0	0	0	1	0	0	0	8
4	0	0	0	2	0	0	5	0	0	0	0	2	0	0	0	9
5	2	0	0	10	0	1	1	1	0	0	0	2	1	1	0	19
6	3	0	1	6	0	0	5	0	0	0	0	2	0	0	0	17
7	5	0	1	5	1	0	3	0	0	0	0	2	0	1	0	18
8	1	1	0	5	0	0	2	0	0	0	0	0	0	1	1	11
9	7	2	4	5	0	0	4	0	0	0	0	0	1	1	0	24
10	3	0	5	11	1	0	2	0	0	0	0	1	0	2	1	26
11	2	0	0	6	0	0	3	0	0	0	0	2	0	1	2	16
12	2	3	9	7	0	0	1	0	0	0	0	4	1	2	0	29
13	3	4	2	19	2	0	1	0	0	0	0	3	0	4	0	38
14	5	8	5	14	0	1	3	0	0	0	0	2	0	5	0	41
15	6	5	6	12	2	0	0	0	0	0	0	1	2	1	1	36
16	3	5	8	5	0	1	1	0	0	0	0	1	3	6	1	34
17	5	2	5	12	0	1	1	0	0	0	0	0	2	5	0	33
18	8	3	2	13	2	0	2	0	0	1	1	2	1	8	0	39
19	5	2	3	5	3	0	2	0	1	0	0	2	2	12	0	37
20	3	7	4	8	0	1	4	0	0	0	0	0	0	5	0	32
21	8	2	6	12	2	1	3	0	0	0	0	1	2	5	0	42
22	5	4	1	8	0	0	4	0	0	0	1	0	0	8	3	34
23	7	2	3	5	0	0	1	0	0	1	0	2	2	7	2	32
24	9	5	2	10	1	0	2	0	1	1	0	0	0	5	0	36
25	3	4	4	8	1	1	0	0	0	0	0	0	0	3	0	24
26-30	36	14	13	38	3	6	8	0	2	0	6	5	9	14	1	155
31-35	23	11	16	33	4	3	8	0	0	3	3	0	5	23	5	137
36-40	27	8	13	30	3	1	7	0	1	1	4	3	6	29	2	135
41-45	20	13	12	28	6	3	3	0	2	1	5	1	4	17	3	118
46-50	26	9	13	37	1	1	3	0	1	0	5	0	2	19	3	120
51-55	11	3	8	19	2	1	3	0	0	2	1	0	4	9	3	66
56-60	8	5	11	20	1	1	1	0	0	0	1	0	0	13	2	63
61-65	13	0	7	15	1	1	3	0	0	0	2	0	4	4	1	51
66-70	10	4	11	19	2	0	0	0	0	0	0	0	3	10	1	60
71-75	12	0	14	18	2	1	1	0	0	0	0	0	3	5	3	57
76-80	11	2	12	8	1	1	0	0	0	0	0	0	4	4	3	46
81-85	8	1	7	8	1	0	6	0	0	0	0	0	1	2	1	35
86-90	7	0	3	7	0	1	1	0	0	0	0	0	1	2	0	22
91-95	0	0	0	2	0	0	1	0	1	0	0	0	0	1	0	5
95+	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Unknown	14	3	14	28	0	5	6	0	1	6	2	3	6	33	3	124
Total	**334**	**138**	**227**	**503**	**42**	**32**	**104**	**1**	**10**	**16**	**31**	**45**	**78**	**269**	**42**	**1,846**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 13.10 – Pedestrians injured and killed by location of injury

Injury Location	Injured	Killed	Total
Knee/Lower Leg/Foot	491	1	492
Head	306	27	333
Hip/Upper Leg	237	0	237
Elbow/Lower Arm/Hand	127	0	127
Back	97	0	97
Entire Body	70	22	92
Shoulder/Upper Arm	90	0	90
Abdomen/Pelvis	51	4	55
Face/Nose	48	1	49
Chest	34	5	39
Neck	35	1	36
Eye	9	0	9
Unknown	192	0	192
Total	**1,787**	**61**	**1,848**

Table 13.11 – Pedestrian injured and killed by type of injury

Injury Type	Injured	Killed	Total
Abrasion	258	0	258
Bruises	651	3	654
Lacerations	109	2	111
Bleeding	65	11	76
Fracture	249	29	278
Dislocation	27	0	27
Burns	2	0	2
Amputations	4	2	6
Concussion	63	7	70
Whiplash	36	0	36
Other	20	5	25
Unknown	303	2	305
Total	**1,787**	**61**	**1,848**

Bicycles In 1998 Collisions

SECTION 14

A bicycle collision is reportable in British Columbia if it results in injury or death and at least one motor vehicle must be involved.

There were 979 bicycle collisions reported in 1998. These collisions resulted in 1,015 casualties (including occupants of motor vehicles). Of these 1,015 victims, 974 were injured bicycle drivers, and 10 were bicycle drivers killed.

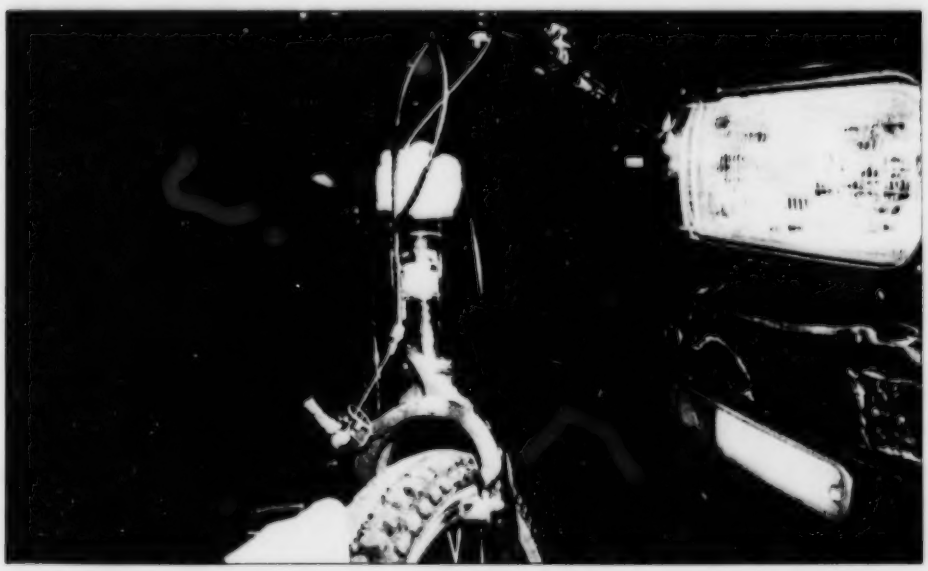
Three of the 10 bicycle drivers killed during 1998 were not wearing bicycle helmets. Seven of the 10 bicycle drivers killed were male, 2 were female and one was unidentified as to gender. Males represented approximately 74.5% of the bicycle drivers injured.

The five top contributing factors assigned to bicycle drivers (as a percentage of total bicycle collisions) were, in order of magnitude:

1. Driving without due care (14.6%);
2. Failing to yield to right of way (13.8%);
3. Driving on the wrong side of the road (9.8%);
4. Ignoring traffic control device (5.2%);
5. Alcohol involvement (4.4%).

The five top contributing factors assigned to other drivers (as a percentage of total bicycle collisions) were, in order of magnitude:

1. Failing to yield to right of way (14.6%);
2. Driving without due care (9.1%);
3. Visibility impaired (2.5%);
4. Improper Turning (2.5%);
5. Ignoring traffic control device (2.2%).



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 14.01 – Bicycle collisions and victims by month*

Month	Collisions			Victims		
	Injury	Fatal	Total	Injured	Killed	Total
January	30	0	30	31	0	31
February	41	0	41	43	0	43
March	68	0	68	72	0	72
April	82	2	84	87	2	89
May	92	2	94	95	2	97
June	113	0	113	116	0	116
July	122	0	122	127	0	127
August	116	2	118	124	2	126
September	126	1	127	128	1	129
October	78	1	79	78	1	79
November	54	0	54	55	0	55
December	47	2	49	49	2	51
Total	**969**	**10**	**979**	**1,065**	**10**	**1,015**

* Victims include both cyclists and occupants of involved motor vehicles.

Figure 14.01 – Bicycle Collisions and victims by month

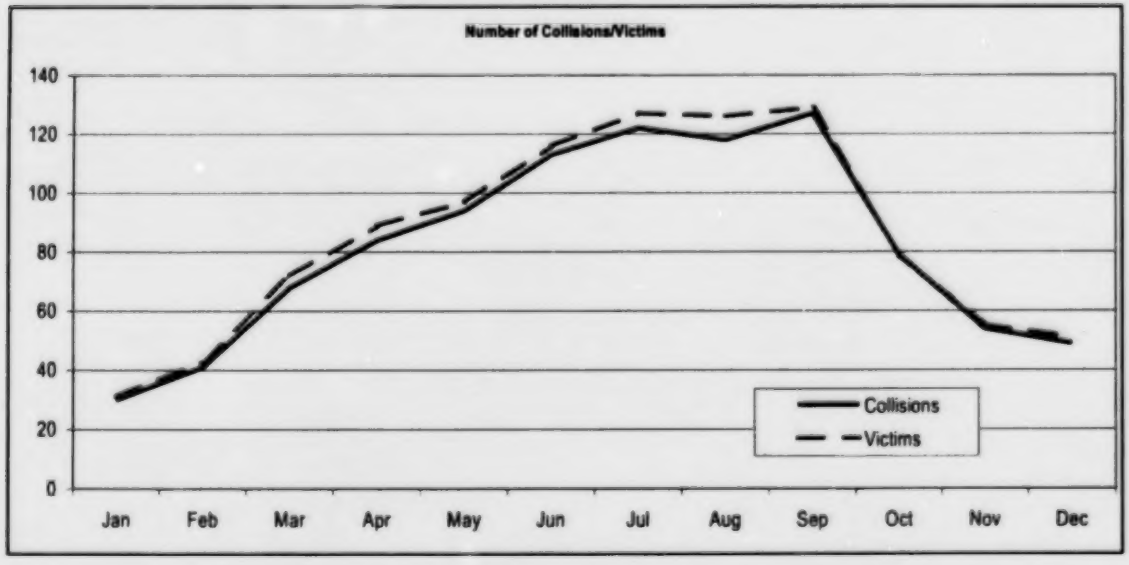


Table 14.02 – Contributing factors in bicycle collisions – Bicycle driver factors only

Contributing Factors	Injury	Fatal	Total	% of Total Bicycle Collisions
Driving Without Due Care	141	2	143	14.61
Failing to Yield Right of Way	132	3	135	13.79
Driving on Wrong Side of Road	96	0	96	9.81
Ignoring Traffic Control Device	50	1	51	5.21
Alcohol Involvement	43	0	43	4.39
Unsafe Speed	36	1	37	3.78
Driver Inexperience	35	0	35	3.58
Defective Headlights	32	0	32	3.27
Cutting In	24	1	25	2.55
Improper Turning	23	0	23	2.35
Defective Brakes	17	0	17	1.74
Improper Passing	16	0	16	1.63
Pedestrian Error/Confusion	13	0	13	1.33
Avoiding veh/ped/cycle	12	0	12	1.23
Weather Condition	12	0	12	1.23
Visibility Impaired	10	0	10	1.02
Road/Intersection Design	10	0	10	1.02
Other*	359	0	359	36.67
Unknown	145	0	145	14.81

Note: The figures shown above represent the contributing factors assigned to the bicycle drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total bicycle casualty collisions recorded in British Columbia in 1998.

* "Other" includes total collisions less than 10 occurrences.

Figure 14.02 – Top five contributing factors in 1998 bicycle collisions (bicycle driver factors only) as a percentage of total bicycle collisions

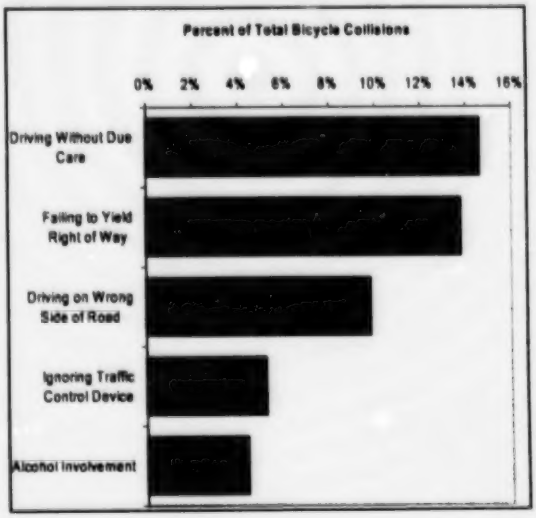


Table 14.03 – Contributing factors in bicycle collisions – Other driver factors only

Contributing Factors	Injury	Fatal	Total	% of Total Bicycle Collisions
Failing to Yield Right of Way	189	0	189	14.55
Driving Without Due Care	115	3	118	9.08
Visibility Impaired	33	0	33	2.54
Improper Turning	32	0	32	2.46
Ignoring Traffic Control Device	29	0	29	2.23
Weather Condition	27	0	27	2.08
Sunlight Glare	23	0	23	1.77
Avoiding veh/ped/cycle	19	0	19	1.46
Improper Passing	16	0	16	1.23
Cutting In	14	0	14	1.08
Driver Inexperience	13	0	13	1.00
Unsafe Speed	12	0	12	0.92
Other*	326	4	330	25.40
Unknown	119	0	119	9.16

Note: The figures shown above represent the contributing factors assigned to drivers, other than bicycle drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total bicycle casualty collisions recorded in British Columbia in 1998.

* "Other" includes total collisions less than 10 occurrences.

Figure 14.03 – Top five contributing factors in 1998 bicycle collisions (other driver factors only) as a percentage of total bicycle collisions

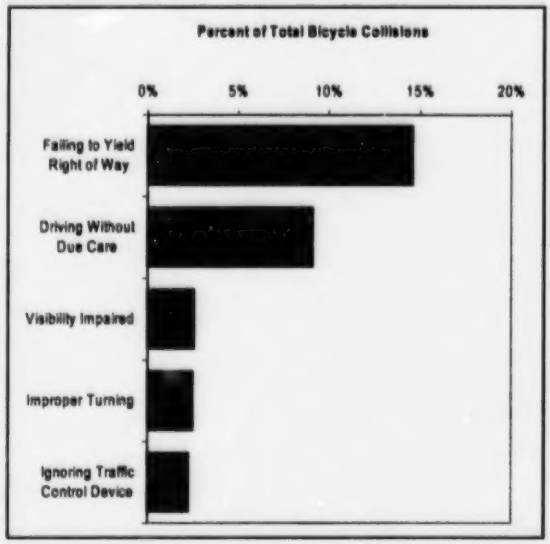


Table 14.04 – Bicycle collisions by primary collision occurrence

Primary Collision Occurrence	Injury	Fatal	Total	% of Total
Intersection - Right Angle	278	1	279	28.50
Left Turn-Across Oncoming Traffic	93	0	93	9.50
Rear End	60	2	62	6.33
Right Turn - Head On	53	0	53	
Overtaking	42	1	43	4.39
Side Swipe-Opposite Direction	34	0	34	3.47
Head On	21	1	22	2.25
Left Turn - Head On	20	0	20	
Right Turn - Rear End	18	1	19	1.94
Backing Up	11	0	11	1.12
Right Turn-Opposite Direction	8	0	8	0.82
Right Turn - Same Direction	8	0	8	
One Way Street	6	0	6	0.61
Left Turn - One Way	4	0	4	0.41
Off Road Right	3	0	3	0.31
Off Road Left	3	0	3	
Other	255	2	257	26.25
Unknown	54	2	56	5.72
Total	**969**	**10**	**979**	**92%**

Table 14.05 – Pre-collision action by collision type in bicycle collisions – Bicycles only

Pre-Collision Action	Injury	Fatal	Total	% of Total
Going Straight Ahead	738	3	739	74.95
Making Left Turn	54	1	55	5.58
Making Right Turn	20	2	22	2.23
Changing Lanes	16	0	16	1.62
Swerving	12	0	12	1.22
Overtaking	8	1	9	0.91
Slowing or Stopping	8	0	8	0.81
Stopped in Traffic	7	0	7	0.71
Starting in Traffic	5	0	5	0.51
Skidding	5	0	5	0.51
Merging	3	0	3	0.30
Starting from Parked position	2	0	2	0.20
Making U Turn	1	0	1	0.10
Entering Parked Position	1	0	1	0.10
Parked legally	0	1	1	0.10
Yaw	1	0	1	0.10
Other	47	2	49	4.97
Unknown	50	0	50	5.07
Total	**978**	**10**	**988**	**100%**

Table 14.06 – Pre-collision action by collision type in bicycle collisions – Other Vehicles

Pre-Collision Action	Injury	Fatal	Total	% of Total
Going Straight Ahead	380	7	387	38.39
Making Right Turn	201	0	201	19.94
Making Left Turn	170	0	170	16.87
Parked legally	62	0	62	6.15
Slowing or Stopping	26	0	26	2.58
Stopped in Traffic	26	0	26	2.58
Starting in Traffic	21	0	21	2.08
Backing	15	1	16	1.59
Changing Lanes	11	0	11	1.09
Starting from Parked position	10	0	10	0.99
Overtaking	8	0	8	0.79
Parked Illegally	7	0	7	0.69
Swerving	5	2	7	0.69
Making U Turn	6	0	6	0.60
Merging	6	0	6	0.60
Skidding	6	0	6	0.60
Entering Parked Position	4	0	4	0.40
Other	19	0	19	1.88
Unknown	15	0	15	1.49
Total	**998**	**10**	**1,008**	**100%**

Table 14.07 – Collision location by collision type in bicycle collisions

Collision Location	Injury	Fatal	Total	% of Total
At intersection	528	2	530	54.14
Between Intersection:Exchanges	254	6	260	26.56
Driveway or Alley	141	2	143	14.61
Parking Lot:Single/Multilevel	18	0	18	1.83
Entrance Ramp	5	0	5	0.51
Bridge	4	0	4	0.41
Exit Ramp	4	0	4	0.41
Off Highway	3	0	3	0.31
Tunnel	1	0	1	0.10
Exit Deceleration lane	1	0	1	0.10
Entrance Intersection	1	0	1	0.10
Other	1	0	1	0.10
Unknown	10	0	10	1.02
Total	**969**	**10**	**979**	**100%**

Table 14.08 – Bicycle collisions by roadway surface condition

Roadway Surface Condition	Injury	Fatal	Total	% of Total
Dry	780	6	786	80.29
Wet	182	4	186	19.00
Snow	1	0	1	0.10
Slush	1	0	1	
Unknown	5	0	5	0.51
Total	**969**	**10**	**979**	**100%**

Table 14.09 – Bicycle collisions by lighting condition

Lighting Condition	Injury	Fatal	Total	% of Total
Daylight	751	6	757	77.32
Dark/Some Illumination	91	1	92	9.40
Dark/Full Illumination	60	1	61	6.23
Dusk	39	1	40	4.09
Dark/No Illumination	18	0	18	1.84
Dawn	7	1	8	0.82
Unknown	3	0	3	0.31
Total	**969**	**10**	**979**	**100%**

Table 14.10 – Bicycle collisions by weather condition

Weather Condition	Injury	Fatal	Total	% of Total
Clear	636	5	641	65.47
Cloudy	212	2	214	21.86
Raining	111	3	114	11.64
Fog	3	0	3	0.31
Hail	1	0	1	0.10
Unknown	6	0	6	0.61
Total	**969**	**10**	**979**	**100%**

Table 14.11 – Time of day by collision type for bicycle collisions

Time	Injury	Fatal	Total	% of Total
0000-0059	6	0	6	0.61
0100-0159	4	0	4	0.41
0200-0259	4	0	4	0.41
0300-0359	2	0	2	0.20
0400-0459	3	0	3	0.31
0500-0559	2	0	2	0.20
0600-0659	17	1	18	1.84
0700-0759	26	0	26	2.66
0800-0859	54	0	54	5.52
0900-0959	30	1	31	3.17
1000-1059	31	0	31	3.17
1100-1159	37	0	37	3.78
1200-1259	55	2	57	5.82
1300-1359	52	0	52	5.31
1400-1459	68	1	69	7.05
1500-1559	86	1	87	8.89
1600-1659	120	1	121	12.36
1700-1759	124	0	124	12.67
1800-1859	70	0	70	7.15
1900-1959	49	0	49	5.01
2000-2059	46	2	48	4.90
2100-2159	35	0	35	3.58
2200-2259	14	1	15	1.53
2300-2359	15	0	15	1.53
Unknown	19	0	19	1.94
Total	**969**	**10**	**979**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 14.12 – Driver age by collision type for bicycle collisions – Bicycle drivers only

Age	Injury	Fatal	Total	% of Total
3	1	0	1	0.10
4	2	0	2	0.20
5	6	0	6	0.61
6	5	1	6	0.61
7	13	0	13	1.32
8	13	0	13	1.32
9	23	0	23	2.34
10	26	0	26	2.64
11	31	0	31	3.15
12	28	1	29	2.95
13	27	0	27	2.74
14	31	0	31	3.15
15	16	0	16	1.63
16	31	0	31	3.15
17	19	0	19	1.93
18	18	1	19	1.93
19	20	0	20	2.03
20	26	0	26	2.64
21	22	0	22	2.24
22	19	0	19	1.93
23	21	0	21	2.13
24	21	1	22	2.24
25	30	0	30	3.05
26-30	117	1	118	11.99
31-35	92	1	93	9.45
36-40	93	0	93	9.45
41-45	62	1	63	6.40
46-50	46	0	46	4.67
51-55	34	0	34	3.46
56-60	16	0	16	1.63
61-65	18	1	19	1.93
66-70	4	1	5	0.51
71-75	2	0	2	0.20
76-80	6	0	6	0.61
81-85	1	0	1	0.10
86-90	1	0	1	0.10
Unknown	33	1	34	3.46
Total	**974**	**10**	**984**	**100%**

Table 14.13 – Bicycle drivers injured by age and gender in collisions

Age	Male	Female	Total
3	1	0	1
4	1	1	2
5	2	4	6
6	3	2	5
7	11	2	13
8	10	3	13
9	14	9	23
10	20	6	26
11	27	4	31
12	18	10	28
13	23	4	27
14	27	5	32
15	14	2	16
16	24	7	31
17	14	5	19
18	10	8	18
19	9	11	20
20	19	7	26
21	12	11	23
22	11	8	19
23	13	8	21
24	15	6	21
25	21	9	30
26-30	86	31	117
31-35	73	20	93
36-40	72	20	92
41-45	51	11	62
46-50	36	10	46
51-55	29	5	34
56-60	11	5	16
61-65	15	2	17
66-70	3	1	4
71-75	1	1	2
76-80	4	2	6
81-85	1	0	1
86-90	1	0	1
Unknown	24	6	30
Total	**728**	**248**	**972**

Note: This report does not include bicycle drivers whose gender was unknown.

Figure 14.05 – Proportion of bicycle collision victims by gender in 1998 collisions

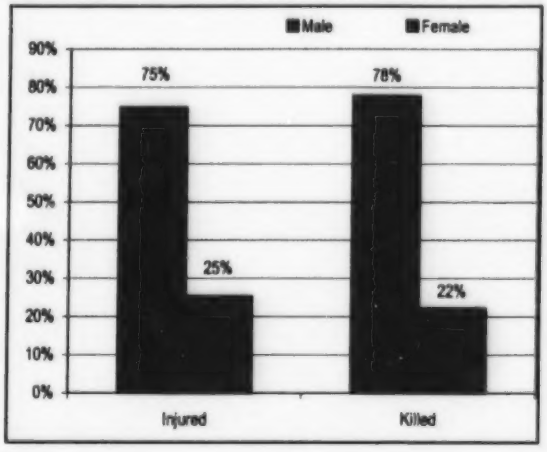


Table 14.14 – Bicycle drivers killed by age and gender in bicycle collisions

Age	Male	Female	Total
6	0	1	1
12	1	0	1
18	1	0	1
24	1	0	1
26-30	1	0	1
31-35	0	1	1
41-45	1	0	1
61-65	1	0	1
66-70	1	0	1
Total	**7**	**2**	**9**

Note: This report does not include bicycle drivers whose gender was unknown.

Table 14.15 – Bicycle drivers injured and killed by helmet usage and location of injury

		Driver Injured	Driver Killed
Helmet			
	Head	40	3
	Entire Body	25	2
	Neck	19	1
	Chest	11	1
	Face/Nose	28	0
	Back	38	0
	Shoulder/Upper Arm	42	0
	Elbow/Lower Arm/Hand	65	0
	Abdomen/Pelvis	8	0
	Hip/Upper Leg	38	0
	Knee/Lower Leg/Foot	141	0
	Unknown	18	0
	Total helmet	**489**	**7**
No Helmet			
	Head	47	2
	Abdomen/Pelvis	7	1
	Face/Nose	12	0
	Neck	10	0
	Chest	3	0
	Back	13	0
	Shoulder/Upper Arm	22	0
	Elbow/Lower Arm/Hand	28	0
	Hip/Upper Leg	15	0
	Knee/Lower Leg/Foot	59	0
	Entire Body	8	0
	Unknown	15	0
	Total No Helmet	**239**	**3**
Unknown			
	Knee/Lower Leg/Foot	75	
	Head	33	
	Elbow/Lower Arm/Hand	33	
	Hip/Upper Leg	22	
	Shoulder/Upper Arm	18	
	Face/Nose	13	
	Neck	13	
	Back	8	
	Entire Body	4	
	Chest	3	
	Abdomen/Pelvis	2	
	Eye	1	
	Unknown	36	
	Total unknown	**281**	
Total		**989**	**10**

Commercial Vehicles In Collisions

SECTION 15

Definition of Commercial Vehicle

This year, we revised the definition of commercial vehicles in this section to be more consistent with an accepted definition such as that adopted by Transport Canada (The T.C. definition considers a CV to be a truck, tractor, trailer or combination thereof exceeding a gross vehicle weight of 4,500kg, or a bus designed, constructed and used for the transportation of passengers with a designated seating capacity of more than 10). We attempted to exclude commercial vehicles that are likely to weigh less than 4,500kg. A precise exclusion based on weight is not possible for some vehicle types. As a result, two groups of vehicles are included in the report as commercial vehicles. One group is defined as vehicles (under 10,900 kilograms gross vehicle weight), in addition to construction vehicles which may exceed 10,900kg, used for 'commercial or business purposes' or vehicles licensed for commercial purposes. These vehicles include:

single unit trucks/light, combination unit trucks/light, tow trucks, road construction vehicles (including grader, paver, roller), general construction vehicles (including backhoe, bulldozer, crawler, digger, excavator, forklift loader, mower, skidder and trencher), mobile cranes.

The other group of vehicles is defined in the database as heavy commercial vehicles (i.e. any single or combination truck unit over 10,900 kilograms gross vehicle weight). These vehicles include:

single unit trucks/heavy; combination unit trucks/heavy, combination unit tractors or trailers, combination unit tractors or trailers and pups, log trucks and pole trailers, local transit bus, intercity bus.

Vehicles included in the commercial vehicle section in last year's Traffic Collision Statistics 1995-97 but excluded in this year's report are as follows:

passenger cars, car & trailers, school buses, motorcycles, mopeds (50cc), bicycles, truck/campers, truck/camper & trailers, motor homes, motor home/trailers, trailers only, snow mobiles, dune buggies, trail bikes, mini bikes, swamp buggies, hovercrafts, four wheel drive vehicles, all-terrain cycles, farm tractors, combines, threshers, mobile homes (over width) and other miscellaneous types of vehicles.

Note that this definition of commercial vehicles includes fewer categories of vehicle than the definition used in previous year's reports. Therefore, commercial vehicle collisions reported in 1998 can not be compared with those reported in previous versions (1997 and earlier).

Summary Statistics

There were 1,909 reported casualty collisions involving commercial vehicles during 1998. Of these collisions, 1,845 were personal injury collisions and 64 were fatal collisions.

The five top contributing factors assigned to commercial vehicle drivers (as a percentage of total commercial vehicle collisions) were, in order of magnitude:

1. Driving without due care (18.1%);
2. Failing to yield to right of way (9.6) and Unsafe speed (9.6%);
3. Following too Closely (9.5%);
4. Weather condition (8.5%);
5. Ignoring Traffic control device (4.1%).

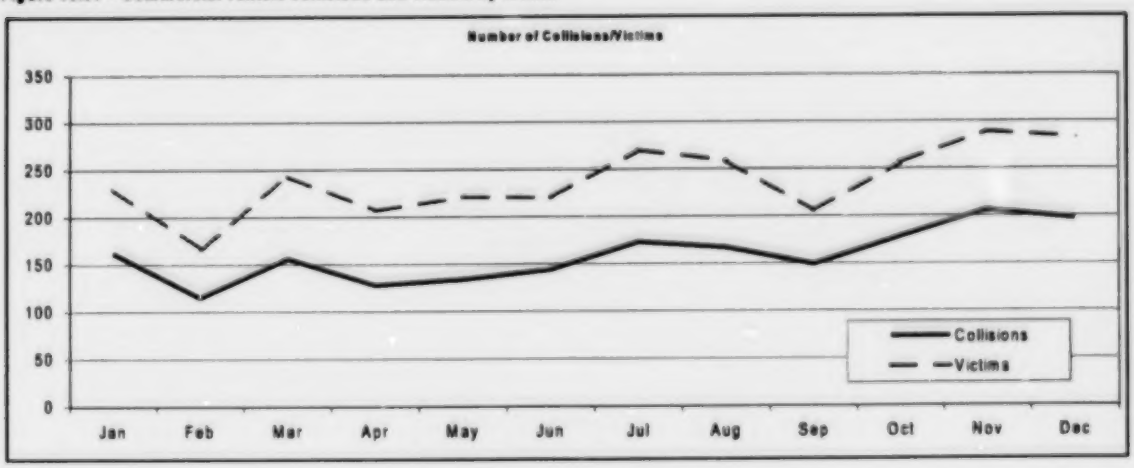
The five top contributing factors assigned to other drivers (as a percentage of total commercial vehicle collisions) were, in order of magnitude:

1. Driving without due care (25.4%);
2. Failing to yield to right of way (16.9%);
3. Following too Closely (11.7%);
4. Unsafe speed (10.6%);
5. Weather condition (10.0%).

Table 15.01 – Commercial vehicle collisions and victims by month

	Collisions			Victims		
Month	Injury	Fatal	Total Collisions	Injured	Killed	Total Victims
January	153	9	162	218	12	230
February	112	3	115	184	3	187
March	149	7	156	234	9	243
April	126	2	128	205	2	207
May	126	8	134	210	11	221
June	143	1	144	219	1	220
July	165	8	173	260	10	270
August	163	4	167	255	4	259
September	144	5	149	197	8	205
October	174	4	178	252	4	256
November	203	3	206	286	3	289
December	187	10	197	272	11	283
Total	1,845	64	1,909	2,772	78	2,850

Figure 15.01 – Commercial vehicle collisions and victims by month



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 15.02 – Contributing factors in commercial vehicle collisions – Commercial vehicle driver factors only: By number of collisions

Contributing Factors	Injury	Fatal	Total	% of Total Commercial Vehicle Collisions
Driving Without Due Care	317	8	325	18.13
Failing to Yield Right of Way	169	3	172	9.59
Unsafe Speed	166	6	172	9.59
Following too Closely	171	0	171	9.54
Weather Condition	147	5	152	8.48
Ignoring Traffic Control Device	71	2	73	4.07
Alcohol Involvement	70	1	71	3.96
Driver Inexperience	43	1	44	2.45
Improper Turning	38	1	39	2.18
Visibility Impaired	33	0	33	1.84
Fell Asleep	28	1	29	1.62
Avoiding veh/ped/cycle	26	3	29	1.62
Defective Brakes	26	1	27	1.51
Insecure Load	26	1	27	1.51
Driving on Wrong Side of Road	20	2	22	1.23
Road Maintenance/Construction	20	2	22	1.23
Wild Animal	22	0	22	1.23
Backing Unsafely	16	1	17	0.95
Cutting In	17	0	17	0.95
Improper Passing	17	0	17	0.95
Extreme Fatigue	13	1	14	0.78
Sunlight Glare	11	0	11	0.61
Other	590	10	600	33.46
Unknown	299	4	303	16.90
Other*	575	9	584	32.57
Unknown	301	4	305	17.01

Note: The figures shown above represent the contributing factors assigned to the commercial vehicle drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total commercial vehicle casualty collisions recorded in British Columbia in 1998.

* "Other" includes total collisions less than 10 occurrences.

Figure 15.02 – Top five contributing factors in 1998 commercial vehicle collisions (commercial vehicle driver factors only) as a percentage of total commercial vehicle collisions

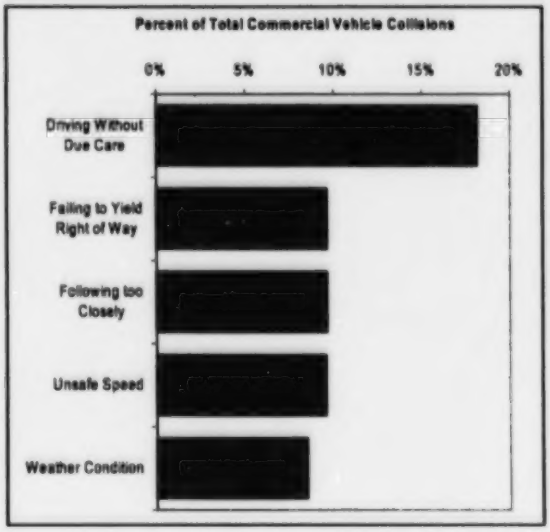


Table 15.03 – Contributing factors in commercial vehicle collisions – Other driver factors only: By number of collisions

Contributing Factors	Injury	Fatal	Total	% of Total Commercial Vehicle Collisions
Driving Without Due Care	439	16	455	25.38
Failing to Yield Right of Way	297	6	303	16.90
Following too Closely	208	1	209	11.66
Unsafe Speed	184	6	190	10.60
Weather Condition	172	7	179	9.98
Ignoring Traffic Control Device	139	4	143	7.98
Alcohol Involvement	116	13	129	7.19
Driver Inexperience	74	2	76	4.24
Driving on Wrong Side of Road	45	9	54	3.01
Improper Turning	52	2	54	3.01
Improper Passing	40	2	42	2.34
Pedestrian Error/Confusion	41	1	42	2.34
Cutting In	36	1	37	2.06
Fell Asleep	30	3	33	1.84
Visibility Impaired	32	0	32	1.78
Avoiding veh/ped/cycle	22	4	26	1.45
Road Maintenance/Construction	20	1	21	1.17
Extreme Fatigue	19	1	20	1.12
Sunlight Glare	20	0	20	1.12
Defective Brakes	18	0	18	1.00
Backing Unsafely	14	1	15	0.84
Unconscious	14	0	14	0.78
Wild Animal	14	0	14	0.78
Obstruction/Debris on Road	13	0	13	0.73
Previous Traffic Collision	12	0	12	0.67
Other*	582	21	603	33.63
Unknown	313	4	317	17.68

Note: The figures shown above represent the contributing factors assigned to drivers, other than commercial vehicle drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol relatedcollision, and a collision involving 'driving without due care'. "Percent of Total"represents the occurrence of the collisions as a percentage of total commercial vehicle casualty collisions recorded in British Columbia in 1998.

* "Other" includes total collisions less than 10 occurrences

Figure 15.03 – Top five contributing factors in 1998 commercial vehicle collisions (other driver factors only) as a percentage of total commercial vehicle collisions

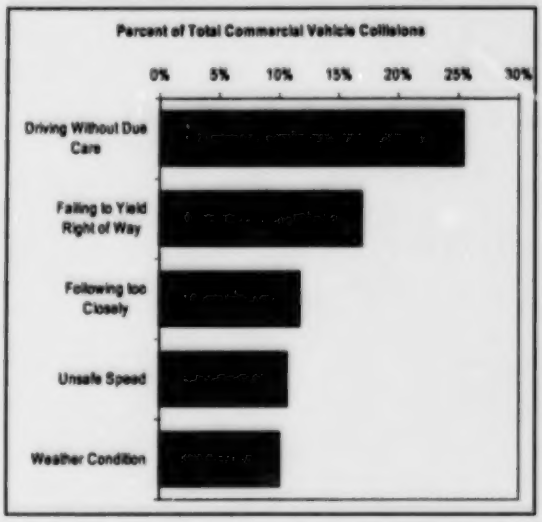


Table 15.04 – Vehicle contributing factors in commercial vehicle collisions: Commercial Vehicle factors only

Vehicle Factors	Injury	Fatal	Total
Defective Brakes	26	1	27
Insecure Load	26	1	27
Oversize Vehicle	8	0	8
Defective Tires	8	0	8
Defective Steering	7	0	7
Defective Turn Signals	3	0	3
No Driver	3	0	3
Defective Engine	3	0	3
Defective Suspension	3	0	3
Defective Brakelights	2	0	2
Defective Headlights	1	0	1
Defective Tow Hitch	1	0	1
Restraint System	1	0	1
Vehicle Modification	1	0	1
Total	**93**	**2**	**95**

Table 15.05 – Number of commercial vehicles involved in collisions by vehicle type

Vehicle Type	Injury	Fatal	Total	% of Total
Single Unit Truck/ Light	870	14	884	43.40
Single Unit Truck/ Heavy	354	13	367	18.02
Tractor Trailer	300	19	319	15.66
Local Transit Bus	123	2	125	6.14
Tractor Trailer & Pup	92	10	102	5.01
Heavy Truck/Trailer	80	4	84	4.12
Logging Truck & Pole Trailer	43	3	46	2.26
Light Truck/Trailer	39	0	39	1.91
Intercity Bus	27	2	29	1.42
Tow Truck	22	3	25	1.23
General Construction	9	0	9	0.44
Road Construction	8	0	8	0.39
Total	**1,967**	**70**	**2,037**	**100%**

Note: This report includes parked commercial vehicles.

Table 15.06 – Commercial vehicle collisions by primary collision occurrence

Primary Collision Occurrence	Injury	Fatal	Total	% of Total
Rear End	521	5	526	27.55
Intersection - Right Angle	297	7	304	15.92
Off Road Right	153	2	155	8.12
Left Turn-Across Oncoming Traffic	127	3	130	6.81
Head On	90	26	116	6.08
Off Road Left	108	5	113	5.92
Side Swipe-Opposite Direction	93	2	95	4.98
Left Turn - Head On	48	0	48	2.51
Overtaking	42	3	45	2.36
Backing Up	14	1	15	0.79
Right Turn - Rear End	9	1	10	0.52
Right Turn - Head On	8	0	8	0.42
One Way Street	7	0	7	0.37
Left Turn - One Way	6	0	6	0.31
Right Turn - Same Direction	5	0	5	0.26
Right Turn-Opposite Direction	2	0	2	0.10
Other	254	9	263	13.78
Unknown	61	0	61	3.20
Total	**1,845**	**84**	**1,909**	**100%**

Table 15.07 – Collision location by collision type in commercial vehicle collisions

Collision Location	Injury	Fatal	Total	% of Total
Between Intersection:Exchanges	774	42	816	42.74
At intersection	751	15	766	40.13
Intersection of Road & Driveway or Alley	110	3	113	5.92
Bridge	56	2	58	3.04
Off Highway	32	1	33	1.73
Parking Lot:Single/Multilevel	17	0	17	0.89
Exit Ramp	13	0	13	0.68
Entrance Ramp	11	0	11	0.58
Railroad crossing	10	1	11	0.58
Exit Intersection	10	0	10	0.52
Entrance Acceleration Lane	5	0	5	0.26
Enterance Intersection	5	0	5	0.26
Tunnel	4	0	4	0.21
Industrial Road	4	0	4	0.21
Transit -Express Lane	3	0	3	0.16
Ferry or Dock	2	0	2	0.10
Exit Deceleration lane	1	0	1	0.05
Other	22	0	22	1.15
Unknown	15	0	15	0.79
Total	**1,845**	**84**	**1,909**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 15.08 – BC driver license class of commercial vehicle driver by vehicle type: Injury collisions

	Driver License Class																	
Vehicle Type	**100**	**180**	**200**	**230**	**280**	**300**	**340**	**348**	**380**	**400**	**480**	**500**	**580**	**700**	**800**	**Other**	**Unknown**	**Total**
Single Unit Truck/ Light	42	18	1	3	0	25	2	2	10	23	6	627	60	3	6	24	20	870
Single Unit Truck/ Heavy	64	20	0	3	1	34	3	1	5	7	2	136	21	1	1	18	37	354
Tractor Trailer	155	32	0	0	0	3	0	0	2	2	0	7	0	0	0	80	19	300
Local Transit Bus	17	6	28	8	5	0	2	1	0	6	0	8	0	0	0	34	8	123
Tractor Trailer & Pup	49	15	0	0	0	0	0	0	0	0	0	0	0	0	0	25	3	92
Heavy Truck/Trailer	45	12	0	0	0	0	0	0	2	0	0	5	0	0	0	11	5	80
Logging Truck & Pole Trailer	31	6	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	43
Light Truck/Trailer	10	3	0	0	0	2	0	0	1	2	1	14	2	0	0	4	0	39
Intercity Bus	8	3	8	0	0	0	0	0	0	2	0	1	3	0	0	5	1	27
Tow Truck	3	2	0	0	0	0	0	0	1	0	0	12	2	0	0	0	2	22
General Construction	2	1	0	0	0	1	0	0	2	0	0	1	1	0	0	0	1	9
Road Construction	2	0	0	0	0	2	0	0	1	0	0	2	0	0	0	1	0	8
Total	**428**	**116**	**35**	**14**	**6**	**67**	**7**	**4**	**24**	**42**	**9**	**813**	**89**	**4**	**7**	**204**	**100**	**1,987**

Note: This table lists all combinations of valid B.C. license classes. Out-of-province drivers are all grouped under "Other".

Note: "100" to "800" refers to driver licence classes 1 to 8. "340", for example, is a cmbination of class 3 and class 4

Table 15.09 – BC driver license class of commercial vehicle drivers by vehicle type: Fatal collisions

	Driver License Class									
Vehicle Type	**100**	**180**	**200**	**300**	**400**	**500**	**580**	**Other**	**Unknown**	**Total**
Tractor Trailer	5	7	0	0	0	0	0	7	0	19
Single Unit Truck/ Light	1	1	0	0	0	9	1	2	0	14
Single Unit Truck/ Heavy	7	1	0	1	1	3	0	0	0	13
Tractor Trailer & Pup	7	0	0	0	0	0	0	2	1	10
Heavy Truck/Trailer	2	0	0	0	0	0	0	0	2	4
Logging Truck & Pole Trailer	3	0	0	0	0	0	0	0	0	3
Tow Truck	0	0	0	0	0	1	2	0	0	3
Local Transit Bus	0	0	1	0	0	0	0	1	0	2
Intercity Bus	0	0	0	0	0	0	0	2	0	2
Total	**25**	**9**	**1**	**1**	**1**	**13**	**3**	**14**	**3**	**70**

Note: This table lists all combinations of valid B.C. license classes. Out-of-province drivers are all grouped under "Other".

Note: "100" to "800" refers to driver licence classes 1 to 8. "340", for example, is a cmbination of class 3 and class 4

Heavy Commercial Vehicles In 1998 Collisions SECTION 16

Definition of Heavy Commercial Vehicle

This year, we also revised the definition of heavy commercial vehicle by adding local transit bus and intercity bus as Transport Canada classifies both types of vehicles as heavy commercial vehicles. Therefore, the current definition of a heavy commercial vehicle is defined as any single or combination truck unit over 10,900 kilograms GVW (gross vehicle weight) as well as local transit bus and intercity bus. Vehicles in this category include:

Single unit truck/heavy;
Tractor-trailer;
Tractor-trailer and pup;
Combination unit truck/heavy;
Logging truck and pole trailer;
Local transit bus;
Intercity bus.

Summary Statistics

There were a total of 1,017 reported casualty collisions involving heavy commercial vehicles in 1998.

There were 1431 injured victims resulting from 969 injury collisions and 62 victims killed from 48 fatal heavy commercial vehicle collisions in 1998.

The top five contributing factors assigned to heavy commercial vehicle drivers (as a percentage of total heavy commercial vehicle collisions) were, in order of magnitude:

1. Driving without due care (15.6%);
2. Unsafe speed (9.4%);
3. Weather condition (7.6%) and Following too closely (7.6%);
4. Failing to yield to the right of way (5.7%);
5. Ignoring traffic control device (2.8%).

The top five contributing factors assigned to other drivers (as a percentage of total heavy commercial vehicle collisions) were, in order of magnitude:

1. Driving without due care (16.1%);
2. Failing to yield to right of way (8.2%);
3. Unsafe speed (7.2%);
4. Weather condition (7.1%);
5. Following too closely (5.3%).

Table 16.01 – Heavy Commercial vehicle collisions and victims by month*

	Collisions			Victims in Heavy Commercial Vehicles			Victims not in Heavy Commercial Vehicles			Total
Month	Injury	Fatal	Total	Injured	Killed	Total	Injured	Killed	Total	Victims
January	89	7	96	89	7	96	45	3	48	144
February	59	3	62	51	2	53	31	1	32	85
March	72	5	77	51	5	56	58	2	60	116
April	65	2	67	57	2	59	38	0	38	97
May	67	7	74	59	3	62	51	7	58	120
June	83	0	83	59	0	59	67	0	67	126
July	84	6	90	85	5	90	49	3	52	142
August	81	3	84	78	3	81	51	0	51	132
September	64	4	68	58	2	60	25	5	30	90
October	99	2	101	79	1	80	54	1	55	135
November	105	2	107	91	2	93	62	0	62	155
December	101	7	108	72	5	77	71	3	74	151
Total	969	48	1,017	829	37	866	602	25	627	1,493

* Includes both heavy commercial vehicle occupants and the occupants of the involved motor vehicles.

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 16.02 – Contributing factors in heavy commercial vehicle collisions – Heavy Commercial vehicle driver factors only: By number of collisions

Contributing Factors	Injury	Fatal	Total	% of Total Heavy Commercial Vehicle Collisions
Driving Without Due Care	153	5	158	15.54
Unsafe Speed	90	6	96	9.44
Weather Condition	74	3	77	7.57
Following too Closely	77	0	77	7.57
Failing to Yield Right of Way	55	3	58	5.70
Ignoring Traffic Control Device	26	2	28	2.75
Alcohol Involvement	23	1	24	2.36
Insecure Load	23	1	24	2.36
Avoiding veh/ped/cycle	21	1	22	2.16
Improper Turning	19	1	20	1.97
Driving on Wrong Side of Road	14	2	16	1.57
Driver Inexperience	15	1	16	1.57
Defective Brakes	13	1	14	1.38
Visibility Impaired	13	0	13	1.28
Road Maintenance/Construction	10	2	12	1.18
Fell Asleep	12	0	12	1.18
Wild Animal	12	0	12	1.18
Cutting In	10	0	10	0.98
Other*	342	7	349	34.32
Unknown	148	4	150	14.75

Note: The figures shown above represent the contributing factors assigned to the heavy commercial vehicle drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total heavy commercial vehicle casualty collisions recorded in British Columbia during 1998.

* "Other" includes total collisions less than 10 occurrences.

Figure 16.01 – Heavy commercial vehicle collisions and victims by month

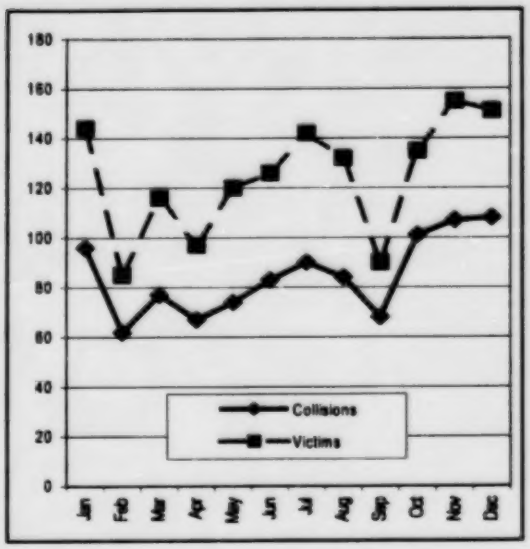


Figure 16.02 – Top five contributing factors in heavy commercial vehicle collisions: Heavy commercial vehicle driver factors only

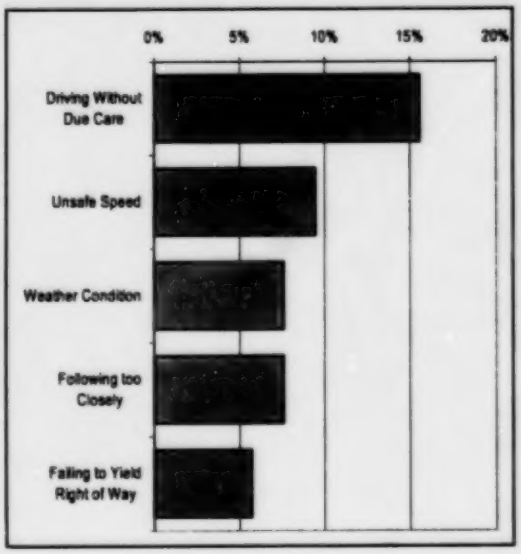


Table 16.03 – Contributing factors in heavy commercial vehicle collisions – Other driver factors only: By number of collisions

Contributing Factors	Injury	Fatal	Total	% of Total Heavy Commercial Vehicle Collisions
Driving Without Due Care	154	10	164	16.13
Failing to Yield Right of Way	80	3	83	8.16
Unsafe Speed	68	5	73	7.18
Weather Condition	68	4	72	7.08
Following too Closely	53	1	54	5.31
Alcohol Involvement	36	9	45	4.42
Ignoring Traffic Control Device	42	3	45	4.42
Driving on Wrong Side of Road	30	6	36	3.54
Driver Inexperience	22	1	23	2.26
Improper Passing	21	2	23	2.26
Cutting In	20	1	21	2.06
Avoiding veh/ped/cycle	15	3	18	1.77
Improper Turning	15	1	16	1.57
Fell Asleep	10	1	11	1.08
Extreme Fatigue	10	0	10	0.98
Other*	233	13	246	24.19
Unknown	105	1	106	10.42

Note: The figures shown above represent the contributing factors assigned to drivers, other than heavy commercial vehicle drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total heavy commercial vehicle casualty collisions recorded in British Columbia during 1998.

* "Other" includes total collisions less than 10 occurrences.

Figure 16.03 – Top five contributing factors in heavy commercial vehicle collisions: Other vehicle driver factors only

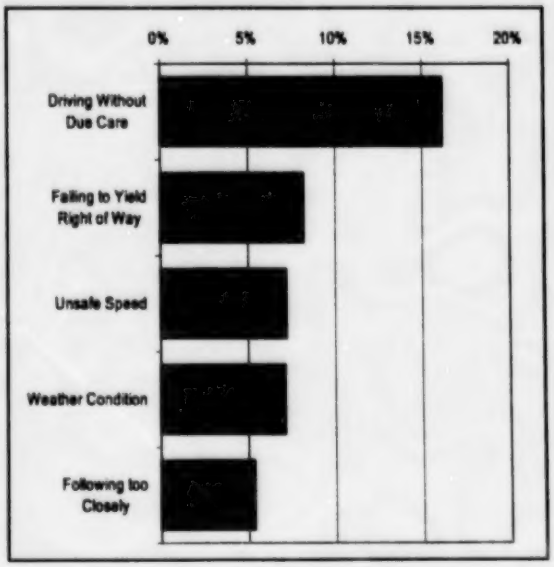


Table 16.04 – Vehicle factors in heavy commercial vehicle collisions: Heavy commercial vehicles only

Vehicle Factors	Injury	Fatal	Total
Insecure Load	23	1	24
Defective Brakes	13	1	14
Oversize Vehicle	7	0	7
Defective Tires	5	0	5
Defective Turn Signals	3	0	3
Defective Steering	2	0	2
No Driver	2	0	2
Defective Suspension	2	0	2
Defective Brakelights	1	0	1
Restraint System	1	0	1
Vehicle Modification	1	0	1
Total	**80**	**2**	**82**

Table 16.05 – Heavy commercial vehicle collisions by primary collision occurrence

Primary Collision Occurrence	Injury	Fatal	Total
Rear End	253	5	258
Intersection - Right Angle	121	4	125
Off Road Right	98	1	99
Head On	54	19	73
Side Swipe-Opposite Direction	68	2	70
Off Road Left	66	3	69
Left Turn-Across Oncoming Traffic	41	2	43
Overtaking	28	3	31
Left Turn - Head On	24	0	24
Right Turn - Rear End	6	1	7
One Way Street	6	0	6
Backing Up	5	0	5
Right Turn - Head On	3	0	3
Right Turn - Same Direction	3	0	3
Right Turn-Opposite Direction	1	0	1
Left Turn - One Way	1	0	1
Other	161	8	169
Unknown	30	0	30
Total	**969**	**48**	**1,017**

Table 16.06 – Collision location by collision type in heavy commercial vehicle collisions

Collision Location	Injury	Fatal	Total
At intersection	332	11	343
Between Intersection:Exchanges	484	32	516
Intersection of Road & Driveway or Alley	43	3	46
Bridge	27	1	28
Ferry or Dock	1	0	1
Tunnel	2	0	2
Exit Deceleration lane	1	0	1
Exit Ramp	8	0	8
Exit Intersection	7	0	7
Entrance Acceleration Lane	4	0	4
Entrance Ramp	5	0	5
Entrance Intersection	4	0	4
Off Highway	18	0	18
Parking Lot:Single/Multilevel	5	0	5
Railroad crossing	4	1	5
Industrial Road	3	0	3
Transit -Express Lane	3	0	3
Other	10	0	10
Unknown	8	0	8
Total	**969**	**48**	**1,017**

Table 16.07 – Heavy commercial vehicle collisions by roadway surface condition

Roadway Surface Condition	Injury	Fatal	Total
Dry	582	32	614
Wet	274	6	280
Muddy	1	0	1
Snow	46	5	51
Slush	15	0	15
Ice	48	5	53
Unknown	3	0	3
Total	**969**	**48**	**1,017**

Table 16.08 – Heavy commercial vehicle collisions by lighting condition

Lighting condition	Injury	Fatal	Total
Daylight	686	31	717
Dark/No Illumination	95	10	105
Dark/Some Illumination	85	4	89
Dark/Full Illumination	52	2	54
Dawn	24	0	24
Dusk	20	1	21
Unknown	7	0	7
Total	**969**	**48**	**1,017**

Table 16.09 – Heavy commercial vehicle collisions by weather condition

Weather	Injury	Fatal	Total
Clear	450	24	474
Cloudy	278	15	293
Raining	171	3	174
Snowing	56	6	62
Fog	6	0	6
Strong Wind	2	0	2
Unknown	6	0	6
Total	**969**	**48**	**1,017**

Table 16.10 – Driver age in heavy commercial vehicle collisions: Heavy commercial vehicle drivers only

Age	Injury	Fatal	Total
16	1	0	1
17	1	0	1
18	1	1	2
19	7	0	7
20	11	1	12
21	10	2	12
22	13	0	13
23	20	0	20
24	16	1	17
25	18	1	19
26-30	118	4	122
31-35	125	8	133
36-40	157	10	167
41-45	139	6	145
46-50	125	9	134
51-55	95	4	99
56-60	55	5	60
61-65	28	0	28
66-70	11	0	11
71-75	2	1	3
76-80	1	0	1
86-90	1	0	1
Unknown	64	0	64
Total	**1,019**	**53**	**1,072**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 16.11 – B.C. driver licence class of heavy commercial vehicle drivers by vehicle type: Injury collisions

Vehicle Type	000	100	180	200	230	280	300	340	348	380	400	480	500	580	700	Other	Unknown	Total
Single Unit Truck/ Heavy	1	64	20	0	3	1	34	3	1	5	7	2	136	21	1	18	37	354
Heavy Truck/Trailer	0	45	12	0	0	0	0	0	0	2	0	0	5	0	0	11	5	80
Tractor Trailer	0	155	32	0	0	0	3	0	0	2	2	0	7	0	0	80	19	300
Tractor Trailer & Pup	0	49	15	0	0	0	0	0	0	0	0	0	0	0	0	25	3	92
Logging Truck & Pole Trailer	0	31	6	0	0	0	0	0	0	0	0	0	0	0	0	2	4	43
Local Transit Bus	0	17	6	28	8	5	0	2	1	0	6	0	8	0	0	34	8	123
Intercity Bus	0	6	3	6	0	0	0	0	0	0	2	0	1	3	0	5	1	27
Total	1	367	94	34	11	6	37	5	2	9	17	2	157	24	1	175	77	1,019

Note: This table lists all combinations of valid B.C. license classes. Out-of-province drivers are all grouped under "Other".

Note: "100" to "800" refers to driver licence classes 1 to 8. "340", for example, is a combination of class 3 and class 4

Table 16.12 – B.C. driver license class of heavy commercial vehicle drivers by vehicle type: Fatal collisions

Vehicle Type	100	180	200	300	400	500	Other	Unknown	Total
Single Unit Truck/ Heavy	7	1	0	1	1	3	0	0	13
Heavy Truck/Trailer	2	0	0	0	0	0	0	2	4
Tractor Trailer	5	7	0	0	0	0	7	0	19
Tractor Trailer & Pup	7	0	0	0	0	0	2	1	10
Logging Truck & Pole Trailer	3	0	0	0	0	0	0	0	3
Local Transit Bus	0	0	1	0	0	0	1	0	2
Intercity Bus	0	0	0	0	0	0	2	0	2
Total	24	8	1	1	1	3	12	3	53

Note: This table lists all combinations of valid B.C. license classes. Out-of-province drivers are all grouped under "Other".

Note: "100" to "800" refers to driver licence classes 1 to 8. "340", for example, is a combination of class 3 and class 4

Police Jurisdiction Report*

SECTION 17

Table 17.01 – Traffic collisions by police jurisdiction – Kelowna subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Armstrong	59	5	64	4.00
Coldstream Municipal	29	0	29	1.81
Enderby	49	0	49	3.06
Falkland	18	2	20	1.25
Kelowna Municipal	507	7	514	32.13
Kelowna Provincial	218	4	222	13.88
Keremeos	22	2	24	1.50
Lumby	29	0	29	1.81
Oliver	45	3	48	3.00
Osoyoos	26	1	27	1.69
Penticton Municipal	21	0	21	1.31
Penticton Provincial	8	1	9	0.56
Princeton	79	4	83	5.19
Revelstoke Municipal	27	1	28	1.75
Revelstoke Provincial	41	2	43	2.69
Salmon Arm Municipal	62	1	63	3.94
Salmon Arm Provincial	51	3	54	3.38
Sicamous	35	3	38	2.38
Summerland	21	0	21	1.31
Vernon Municipal	152	2	154	9.63
Vernon Provincial	58	2	60	3.75
Total	**1,557**	**43**	**1,600**	**100%**

Table 17.02 – Victims in traffic collisions by police jurisdiction – Kelowna subdivision

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Armstrong	94	8	102	4.10
Coldstream Municipal	41	0	41	1.65
Enderby	75	0	75	3.02
Falkland	27	3	30	1.21
Kelowna Municipal	793	7	800	32.17
Kelowna Provincial	377	4	381	15.32
Keremeos	32	2	34	1.37
Lumby	38	0	38	1.53
Oliver	80	3	83	3.34
Osoyoos	50	1	51	2.05
Penticton Municipal	30	0	30	1.21
Penticton Provincial	13	1	14	0.56
Princeton	128	4	132	5.31
Revelstoke Municipal	35	2	37	1.49
Revelstoke Provincial	75	4	79	3.18
Salmon Arm Municipal	86	1	87	3.50
Salmon Arm Provincial	72	4	76	3.06
Sicamous	49	3	52	2.09
Summerland	34	0	34	1.37
Vernon Municipal	209	2	211	8.48
Vernon Provincial	98	2	100	4.02
Total	**2,438**	**51**	**2,487**	**100%**

* This section is based on the former RCMP organization of 12 sub-divisions.
The current organization consists of 4 districts.

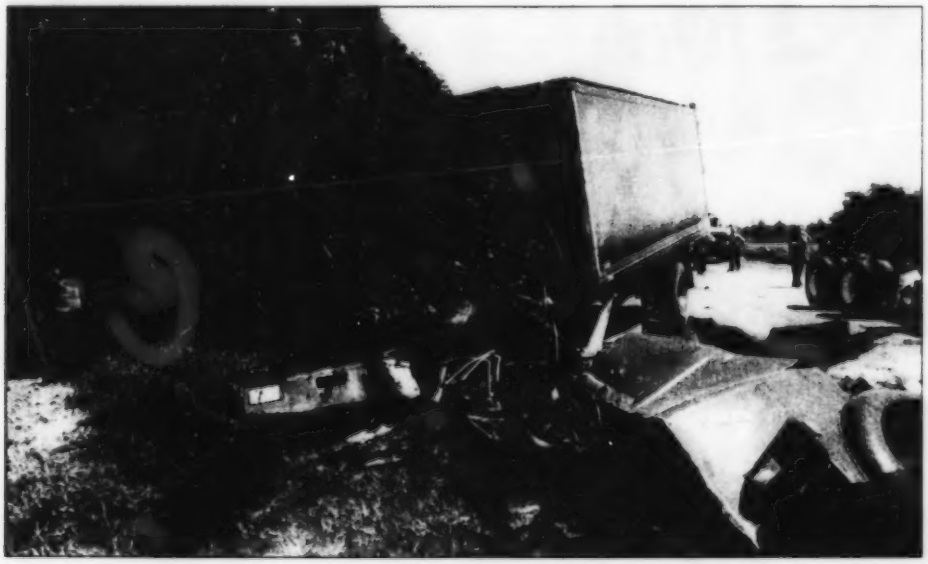
Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 17.03 – Traffic collisions by police jurisdiction – Kamloops subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
100 Mile	28	1	29	2.97
Alexis Creek	13	1	14	1.43
Anahim Lake	10	1	11	1.12
Ashcroft	42	3	45	4.60
Barriere	29	2	31	3.17
Chase	51	1	52	5.32
Clearwater	47	0	47	4.81
Clinton	43	2	45	4.60
Kamloops Municipal	336	4	340	34.76
Kamloops Provincial	65	5	70	7.16
Lillooet	24	3	27	2.76
Logan Lake	23	1	24	2.45
Lytton	50	4	54	5.52
Merritt Municipal	25	0	25	2.56
Merritt Provincial	121	5	126	12.88
Valemount	32	1	33	3.37
Williams Lake Municipal	0	1	1	0.10
Williams Lake Provincial	1	3	4	0.41
Total	**940**	**38**	**978**	**100%**

Table 17.04 – Victims in traffic collisions by police jurisdiction – Kamloops subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
100 Mile	47	1	48	3.06
Alexis Creek	24	1	25	1.59
Anahim Lake	22	1	23	1.46
Ashcroft	73	3	76	4.84
Barriere	39	3	42	2.68
Chase	73	1	74	4.71
Clearwater	93	0	93	5.92
Clinton	73	3	76	4.84
Kamloops Municipal	515	4	519	33.06
Kamloops Provincial	116	6	122	7.77
Lillooet	40	4	44	2.80
Logan Lake	31	1	32	2.04
Lytton	79	9	88	5.61
Merritt Municipal	36	0	36	2.29
Merritt Provincial	191	5	196	12.48
Valemount	67	1	68	4.33
Williams Lake Municipal	2	1	3	0.19
Williams Lake Provincial	2	3	5	0.32
Total	**1,523**	**47**	**1,570**	**100%**



Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 17.05 – Traffic collisions by police jurisdiction – Nelson subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Castlegar Municipal	37	0	37	4.99
Castlegar Provincial	31	1	32	4.31
Cranbrook Municipal	73	0	73	9.84
Cranbrook Provincial	33	3	36	4.85
Crescent Val.	1	1	2	0.27
Creston	76	4	80	10.78
Elkford	7	0	7	0.94
Fernie Municipal	10	0	10	1.35
Fernie Provincial	32	1	33	4.45
Field	4	0	4	0.54
Fruitvale	9	0	9	1.21
Golden	92	5	97	13.07
Grand Forks	30	2	32	4.31
Invermere	36	0	36	4.85
Kaslo	10	1	11	1.48
Kimberley Municipal	17	1	18	2.43
Kimberley Provincial	10	0	10	1.35
Midway	23	2	25	3.37
Nakusp	20	0	20	2.70
Nelson Provincial	53	4	57	7.68
New Denver	9	1	10	1.35
Radium	2	0	2	0.27
Rossland	11	1	12	1.62
Salmo	20	3	23	3.10
Sparwood	14	2	16	2.16
Trail Municipal	28	2	30	4.04
Trail Provincial	20	0	20	2.70
Total	**786**	**34**	**742**	**100%**

Table 17.06 – Victims in traffic collisions by police jurisdiction – Nelson subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Castlegar Municipal	59	0	59	5.13
Castlegar Provincial	56	1	57	4.96
Cranbrook Municipal	105	0	105	9.14
Cranbrook Provincial	54	3	57	4.96
Crescent Val.	2	1	3	0.26
Creston	107	5	112	9.75
Elkford	13	0	13	1.13
Fernie Municipal	12	0	12	1.04
Fernie Provincial	53	1	54	4.70
Field	8	0	8	0.70
Fruitvale	14	0	14	1.22
Golden	162	8	170	14.80
Grand Forks	48	2	48	4.18
Invermere	59	0	59	5.13
Kaslo	11	1	12	1.04
Kimberley Municipal	27	1	28	2.44
Kimberley Provincial	18	0	18	1.57
Midway	33	2	35	3.05
Nakusp	37	0	37	3.22
Nelson Provincial	77	6	83	7.22
New Denver	13	1	14	1.22
Radium	2	0	2	0.17
Rossland	22	1	23	2.00
Salmo	30	3	33	2.87
Sparwood	18	6	24	2.09
Trail Municipal	37	3	40	3.48
Trail Provincial	29	0	29	2.52
Total	**1,104**	**45**	**1,149**	**100%**

Table 17.07 – Traffic collisions by police jurisdiction – Prince George subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Burns Lake	25	1	26	3.07
Chetwynd	28	0	28	3.30
Dawson Creek Municipal	36	0	36	4.25
Dawson Creek Provincial	56	3	59	6.96
Fraser Lake	6	0	6	0.71
Fort Nelson	21	6	27	3.18
Fort. St. James	9	0	9	1.06
Fort. St. John Municipal	8	2	10	1.18
Fort. St. John Provincial	7	1	8	0.94
Hudson Hope	3	0	3	0.35
Mackenzie Municipal	11	1	12	1.42
Mackenzie Provincial	17	2	19	2.24
McBride	28	1	29	3.42
Prince George Municipal	306	9	315	37.15
Prince George Provincial	91	6	97	11.44
Quesnel Municipal	32	1	33	3.89
Quesnel Provincial	79	4	83	9.79
Tumbler Ridge	3	0	3	0.35
Vanderhoof	39	2	41	4.83
Watson Lake	3	0	3	0.35
Wells	1	0	1	0.12
Total	**809**	**39**	**848**	**100%**

Table 17.08 – Victims in traffic collisions by police jurisdiction – Prince George subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Burns Lake	35	1	36	2.81
Chetwynd	41	0	41	3.21
Dawson Creek Municipal	54	0	54	4.22
Dawson Creek Provincial	101	4	105	8.21
Fraser Lake	6	0	6	0.47
Fort Nelson	38	6	44	3.44
Fort. St. James	9	0	9	0.70
Fort. St. John Municipal	9	2	11	0.86
Fort. St. John Provincial	15	2	17	1.33
Hudson Hope	6	0	6	0.47
Mackenzie Municipal	16	1	17	1.33
Mackenzie Provincial	26	3	29	2.27
Mcbride	43	1	44	3.44
Prince George Municipal	453	9	462	36.12
Prince George Provincial	146	6	152	11.88
Quesnel Municipal	60	1	61	4.77
Quesnel Provincial	121	4	125	9.77
Tumbler Ridge	3	0	3	0.23
Vanderhoof	51	2	53	4.14
Watson Lake	3	0	3	0.23
Wells	1	0	1	0.08
Total	**1,237**	**42**	**1,279**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 17.09 – Traffic collisions by police jurisdiction – Prince Rupert subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Atlin	2	0	2	0.50
Bella Bella	6	0	6	1.50
Bella Coola	11	0	11	2.74
Cassiar	1	0	1	0.25
Dease Lake	9	2	11	2.74
Granisle	1	2	3	0.75
Houston	28	3	31	7.73
Kitimat Municipal	29	0	29	7.23
Kitimat Provincial	9	0	9	2.24
Masset	12	0	12	2.99
New Aiyansh	20	1	21	5.24
New Hazelton	54	3	57	14.21
Prince Rupert Municipal	18	0	18	4.49
Prince Rupert Provincial	7	1	8	2.00
Queen Charlotte	9	0	9	2.24
Smithers	44	2	46	11.47
Stewart	5	1	6	1.50
Terrace Municipal	52	1	53	13.22
Terrace Provincial	66	2	68	16.96
Total	**383**	**18**	**401**	**100%**

Table 17.10 – Victims in traffic collisions by police jurisdiction – Prince Rupert subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Atlin	2	0	2	0.32
Bella Bella	7	0	7	1.10
Bella Coola	15	0	15	2.37
Cassiar	1	0	1	0.16
Dease Lake	15	2	17	2.68
Granisle	6	2	8	1.26
Houston	52	3	55	8.68
Kitimat Municipal	39	0	39	6.15
Kitimat Provincial	10	0	10	1.58
Masset	16	0	16	2.52
New Aiyansh	33	1	34	5.36
New Hazelton	86	6	92	14.51
Prince Rupert Municipal	23	0	23	3.63
Prince Rupert Provincial	16	1	17	2.68
Queen Charlotte	21	0	21	3.31
Smithers	79	2	81	12.78
Stewart	7	1	8	1.26
Terrace Municipal	78	1	79	12.46
Terrace Provincial	105	4	109	17.19
Total	**611**	**23**	**634**	**100%**

Table 17.11 – Traffic collisions by police jurisdiction – Vancouver subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions In Subdivision	% of Total Collisions In Subdivision
Bowen Island	2	0	2	0.12
Coquitlam Provincial	10	0	10	0.62
Deas Island Freeway Patrol A	172	4	176	10.87
Port Mann Freeway Patrol B	228	4	232	14.33
Gibsons Provincial	33	0	33	2.04
Langley City	139	1	140	8.65
Langley Dist	330	7	337	20.82
Maple Ridge Municipal	245	4	249	15.38
Maple Ridge Provincial	10	0	10	0.62
Pemberton	23	0	23	1.42
Pitt Meadows	61	0	61	3.77
Sechelt Provincial	70	2	72	4.45
Squamish Municipal	68	3	71	4.39
Squamish Provincial	58	4	62	3.83
UBC Provincial	38	1	39	2.41
Whistler	61	3	64	3.95
White Rock	38	0	38	2.35
Total	**1,586**	**33**	**1,619**	**100%**

Table 17.12 – Victims in traffic collisions by police jurisdiction – Vancouver subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims In Subdivision	% of Total Victims In Subdivision
Bowen Island	3	0	3	0.12
Coquitlam Provincial	20	0	20	0.79
Deas Island Freeway Patrol A	279	5	284	11.25
Port Mann Freeway Patrol B	368	4	372	14.74
Gibsons Provincial	48	0	48	1.90
Langley City	203	1	204	8.08
Langley Dist	525	7	532	21.08
Maple Ridge Municipal	360	4	364	14.42
Maple Ridge Provincial	19	0	19	0.75
Pemberton	29	0	29	1.15
Pitt Meadows	93	0	93	3.68
Sechelt Provincial	106	2	108	4.28
Squamish Municipal	113	3	116	4.60
Squamish Provincial	108	4	112	4.44
UBC Provincial	60	1	61	2.42
Whistler	105	3	108	4.28
White Rock	51	0	51	2.02
Total	**2,490**	**34**	**2,524**	**100%**

Table 17.13 – Traffic collisions by police jurisdiction – Chilliwack subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions In Subdivision	% of Total Collisions In Subdivision
Abbotsford Municipal	2	0	2	0.24
Abbotsford Provincial	3	0	3	0.36
Agassiz	82	1	83	7.56
Boston Bar	13	1	14	1.68
Chilliwack Municipal	268	6	274	32.89
Chilliwack Provincial	26	0	26	3.12
Hope Provincial	154	8	162	19.45
Mission Municipal	153	2	155	18.61
Mission Provincial	33	0	33	3.96
Sumas Freeway Patrol C	97	4	101	12.12
Total	**811**	**22**	**833**	**100%**

Table 17.14 – Victims in traffic collisions by police jurisdiction – Chilliwack subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims In Subdivision	% of Total Victims In Subdivision
Abbotsford Municipal	3	0	3	0.22
Abbotsford Provincial	6	0	6	0.44
Agassiz	102	1	103	7.58
Boston Bar	25	1	26	1.91
Chilliwack Municipal	413	7	420	30.93
Chilliwack Provincial	36	0	36	2.65
Hope Provincial	268	11	279	20.54
Mission Municipal	266	2	268	19.73
Mission Provincial	59	0	59	4.34
Sumas Freeway Patrol C	154	4	158	11.63
Total	**1,332**	**26**	**1,358**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 17.15 – Traffic collisions by police jurisdiction – Victoria Subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Chemainus	38	0	38	3.20
Colwood Municipal	60	0	60	5.05
Colwood Provincial	147	1	148	12.47
Duncan Provincial	86	1	87	7.33
Gabriola Island	8	0	8	0.67
Ganges	60	0	60	5.05
Ladysmith	74	3	77	6.49
Lake Cowichan	22	0	22	1.85
North Saanich	28	0	28	2.36
North Cowichan-Duncan Municipal	118	0	118	9.94
Nanaimo Municipal	274	1	275	23.17
Nanaimo Provincial	35	1	36	3.03
Pender Island	9	1	10	0.84
Shawnigan Lake	103	4	107	9.01
Sidney Municipal	32	0	32	2.70
Sidney Provincial	6	0	6	0.51
Sooke	72	3	75	6.32
Total	**1,172**	**15**	**1,187**	**100%**

Table 17.16 – Victims in traffic collisions by police jurisdiction – Victoria subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Chemainus	51	0	51	2.94
Colwood Municipal	91	0	91	5.24
Colwood Provincial	200	1	201	11.58
Duncan Provincial	128	1	129	7.43
Gabriola Island	16	0	16	0.92
Ganges	83	0	83	4.78
Ladysmith	116	3	119	6.85
Lake Cowichan	35	0	35	2.02
North Saanich	50	0	50	2.88
North Cowichan-Duncan Municipal	178	0	178	10.25
Nanaimo Municipal	388	1	389	22.41
Nanaimo Provincial	50	1	51	2.94
Pender Island	13	1	14	0.81
Shawnigan Lake	148	4	152	8.76
Sidney Municipal	47	0	47	2.71
Sidney Provincial	10	0	10	0.58
Sooke	115	5	120	6.91
Total	**1,719**	**17**	**1,736**	**100%**

Table 17.17 – Traffic collisions by police jurisdiction – Courtenay subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Alert Bay	3	0	3	0.32
Campbell River Municipal	108	1	109	11.80
Campbell River Provincial	42	2	44	4.76
Comox	26	1	27	2.92
Courtenay Municipal	91	0	91	9.85
Courtenay Provincial	89	3	92	9.96
Gold River	8	0	8	0.87
Parksville Municipal	31	0	31	3.35
Parksville Provincial	100	6	106	11.47
Port Alice	3	0	3	0.32
Port McNeill	37	1	38	4.11
Powell Rv Municipal	55	0	55	5.95
Powell Rv Provincial	33	1	34	3.68
Port Alberni Municipal	93	2	95	10.28
Port Alberni Provincial	51	1	52	5.63
Port Hardy Provincial	36	1	37	4.00
Quadra Island	7	0	7	0.76
Qualicum Beach	20	1	21	2.27
Sayward	17	2	19	2.06
Tahsis	5	0	5	0.54
Texada Island	10	0	10	1.08
Tofino	16	0	16	1.73
Ucuelet	21	0	21	2.27
Total	**902**	**22**	**924**	**100%**

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 17.18 – Victims in traffic collisions by police jurisdiction – Courtenay subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Alert Bay	3	0	3	0
Campbell River Municipal	151	1	152	11
Campbell River Provincial	83	2	85	6
Comox	40	2	42	3
Courtenay Municipal	124	0	124	9
Courtenay Provincial	140	3	143	10
Gold River	15	0	15	1
Parksville Municipal	43	0	43	3
Parksville Provincial	159	6	165	12
Port Alice	3	0	3	0
Port McNeill	51	3	54	4
Powell Rv Municipal	84	0	84	6
Powell Rv Provincial	46	1	47	3
Port Alberni Municipal	148	2	150	11
Port Alberni Provincial	99	1	100	7
Port Hardy Provincial	56	1	57	4
Quadra Island	15	0	15	1
Qualicum Beach	27	1	28	2
Sayward	33	2	35	2
Tahsis	5	0	5	0
Texada Island	14	0	14	1
Tofino	28	0	28	2
Ucuelet	28	0	28	2
Total	**1,395**	**25**	**1,420**	**100%**

Table 17.19 – Traffic collisions by police jurisdiction – Municipal Forces

Jurisdiction	Injury	Fatal	Total Collisions	% of Total Collisions
Abbotsford	432	8	440	8.28
Central Saanich	63	0	63	1.18
Delta	393	3	396	7.45
Esquimalt	82	0	82	1.17
Nelson	34	0	34	0.64
New Westminster	247	1	248	4.66
Oak Bay	43	1	44	0.83
Port Moody	147	0	147	2.76
Saanich	582	3	585	10.83
Vancouver	2,465	34	2,499	47.00
Victoria	587	2	589	11.08
West Vancouver	229	1	230	4.33
Total	**5,284**	**53**	**5,317**	**100%**

Table 17.20 – Victims in traffic collisions by police jurisdiction – Municipal Forces

Jurisdiction	Injured	Killed	Total Victims	% of Total Victims
Abbotsford	716	8	724	9.34
Central Saanich	94	0	94	1.21
Delta	601	3	604	7.79
Esquimalt	86	0	86	1.11
Nelson	45	0	45	0.58
New Westminster	395	1	396	5.11
Oak Bay	59	1	60	0.77
Port Moody	207	0	207	2.67
Saanich	783	3	786	10.14
Vancouver	3,810	36	3,846	47.03
Victoria	779	2	781	10.07
West Vancouver	323	1	324	4.18
Total	**7,888**	**55**	**7,753**	**100%**

Table 17.21 – Traffic collisions by police jurisdiction – Burnaby subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision
Burnaby	812	9	821
Total	812	9	821

Table 17.22 – Victims in traffic collisions by police jurisdiction – Burnaby subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision
Burnaby	1,164	10	1,174
Total	1,164	10	1,174

Table 17.23 – Traffic collisions by police jurisdiction – Coquitlam subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
Coquitlam Municipal	364	6	370	72.69
Port Coquitlam	136	3	139	27.31
Total	500	9	509	100%

Table 17.24 – Victims in traffic collisions by police jurisdiction – Coquitlam subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
Coquitlam Municipal	544	6	550	74.02
Port Coquitlam	189	4	193	25.98
Total	733	10	743	100%

Table 17.25 – Traffic collisions by police jurisdiction – North Vancouver subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision	% of Total Collisions in Subdivision
North Vancouver City	165	0	165	43.88
North Vancouver Dist.	210	1	211	56.12
Total	375	1	376	100%

Table 17.26 – Victims in traffic collisions by police jurisdiction – North Vancouver subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims in Subdivision	% of Total Victims in Subdivision
North Vancouver City	234	0	234	45.26
North Vancouver Dist.	282	1	283	54.74
Total	516	1	517	100%

Table 17.27 – Traffic collisions by police jurisdiction – Richmond subdivision RCMP

Jurisdiction	Injury	Fatal	Total Collisions
Richmond	825	9	834
Total	825	9	834

Table 17.28 – Victims in traffic collisions by police jurisdiction – Richmond subdivision RCMP

Jurisdiction	Injured	Killed	Total Victims
Richmond	1,204	9	1,213
Total	1,204	9	1,213

Table 17.29 – Traffic collisions by police jurisdiction – Surrey subdivision RCMP.

Jurisdiction	Injury	Fatal	Total Collisions in Subdivision
Surrey Municipal	1,337	17	1,354
Total	1,337	17	1,354

Table 17.30 – Victims in traffic collisions by police jurisdiction – Surrey subdivision RCMP.

Jurisdiction	Injured	Killed	Total Victims
Surrey Municipal	2,190	20	2,210
Total	2,190	20	2,210

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Emergency Vehicle, Taxi and School Bus Collisions SECTION 18

This section is new to the 1998 version of the Traffic Collision Statistics. In previous years, emergency vehicles and school buses were included in the commercial vehicle section and taxis were not included in any section, except for a table on vehicle use (Table 6.04).

An emergency vehicle is defined, in this report, as any vehicle used to carry rescue or first aid equipment, whether or not actually responding to an emergency. It includes ambulance, police car, fire truck or other vehicles used for the purpose of emergency.

In 1998, there were 187 emergency vehicle collisions. These collisions resulted in 277 injured victims and 2 victims killed resulted from these collisions.

The top three contributing factors assigned to emergency vehicle drivers were, in order of magnitude:

1. Weather condition;
2. Unsafe speed;
3. Failing to yield right of way.

In 1998, there were 2,415 taxis registered for service. There were 250 collisions involving taxis in the same year. Of these 247 of them were injury collisions and 3 were fatal collisions. Of the victims resulting from these collisions, 421 were injured and 3 were killed.

The top three contributing factors assigned to taxi drivers were, in order of magnitude:

1. Driving without due care;
2. Failing to yield right of way;
3. Following too closely.

A school bus is defined, for the purpose of this report, as a motor vehicle licensed to convey children to or from school. Generally, these are the traditional yellow and black school buses.

A total of 20 collisions involving school buses occurred during 1998. Of these, 1 was fatal collision, resulting in 1 person killed. The other 19 injury collisions had a total of 34 injured victims.

The top three contributing factors assigned to school bus drivers were, in order of magnitude:

1. Failing to yield right of way;
2. Driving without due care;
3. Weather condition.

Table 18.01 – Emergency vehicle, taxi and school bus collisions by month

	Emergency Vehicle			Taxi			School Bus		
Month	Injury	Fatal	Total	Injury	Fatal	Total	Injury	Fatal	Total
January	10	0	10	25	0	25	1	0	1
February	13	0	13	18	0	18	1	0	1
March	13	1	14	13	0	13	0	0	0
April	18	0	18	13	1	14	2	0	2
May	11	0	11	19	0	19	4	1	5
June	21	0	21	13	0	13	3	0	3
July	9	0	9	36	0	36	0	0	0
August	15	0	15	22	0	22	0	0	0
September	17	0	17	20	0	20	3	0	3
October	19	0	19	22	1	23	2	0	2
November	25	1	26	23	0	23	2	0	2
December	14	0	14	25	1	26	1	0	1
Total	185	2	187	247	3	250	19	1	20

Attention: Collision numbers for 1998 should not be compared with those of previous years due to changes in police reporting practices.

Table 18.02 – Victims in emergency vehicle, taxi and school bus collisions by month

Month	Emergency Vehicle			Taxi			School Bus		
	Injured	Killed	Total	Injured	Killed	Total	Injured	Killed	Total
January	14	0	14	42	0	42	4	0	4
February	20	0	20	33	0	33	1	0	1
March	23	1	24	19	0	19	0	0	0
April	28	0	28	30	1	31	7	0	7
May	15	0	15	35	0	35	5	1	6
June	25	0	25	24	0	24	3	0	3
July	14	0	14	66	0	66	0	0	0
August	22	0	22	36	0	36	0	0	0
September	29	0	29	32	0	32	7	0	7
October	24	0	24	34	1	35	3	0	3
November	43	1	44	38	0	38	3	0	3
December	20	0	20	32	1	33	1	0	1
Total	**277**	**2**	**279**	**421**	**3**	**424**	**34**	**1**	**35**

Table 18.03 – Contributing factors in emergency vehicle collisions – Emergency vehicle driver factors only: By number of collisions

Contributing factors	Injury	Fatal	Total	% of Total Emergency Vehicle Collisions
Weather Condition	13	0	13	6.95
Unsafe Speed	10	0	10	5.35
Failing to Yield Right of Way	8	0	8	4.28
Driving Without Due Care	6	0	6	3.21
Following too Closely	6	0	6	3.21
Avoiding veh/ped/cycle	6	0	6	3.21
Improper Turning	5	0	5	2.67
Driver Inexperience	4	0	4	2.14
Ignoring Traffic Control Device	4	0	4	2.14
Road/Intersection Design	4	0	4	2.14
Pavement Condition	3	0	3	1.60
Visibility Impaired	3	0	3	1.60
Driving on Wrong Side of Road	2	0	2	1.07
Defective Brakes	2	0	2	1.07
Wild Animal	2	0	2	1.07
Backing Unsafely	1	0	1	0.53
Extreme Fatigue	1	0	1	0.53
Fell Asleep	1	0	1	0.53
Unconscious	1	0	1	0.53
Defective Tires	1	0	1	0.53
Obstruction/Debris on Road	1	0	1	0.53
Previous Traffic Collision	1	0	1	0.53
Sign Obstruction	1	0	1	0.53
Roadside Hazard	1	0	1	0.53
Other	81	0	81	43.32
Unknown	24	0	24	12.83

Note: The figures shown above represent the contributing factors assigned to the emergency vehicle drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total emergency vehicle casualty collisions recorded in British Columbia during 1998.

Table 18.04 – Contributing factors in emergency vehicle collisions – Other vehicle driver factors only: By number of collisions

Contributing factors	Injury	Fatal	Total	% of Total Emergency Vehicle Collisions
Driving Without Due Care	44	1	45	24.06
Unsafe Speed	19	1	20	10.70
Failing to Yield Right of Way	19	0	19	10.16
Following too Closely	12	0	12	6.42
Ignoring Traffic Control Device	12	0	12	6.42
Ignoring Officer/Flagman/Guard	12	0	12	6.42
Weather Condition	7	1	8	4.28
Alcohol Involvement	7	0	7	3.74
Backing Unsafely	4	0	4	2.14
Pedestrian Error/Confusion	4	0	4	2.14
Visibility Impaired	4	0	4	2.14
Cutting In	3	0	3	1.60
Driver Inexperience	3	0	3	1.60
Drugs (Illegal)	3	0	3	1.60
Improper Turning	2	1	3	1.60
Avoiding veh/ped/cycle	2	0	2	1.07
Defective Brakes	2	0	2	1.07
Improper Passing	1	0	1	0.53
Oversize Vehicle	1	0	1	0.53
Defective Steering	1	0	1	0.53
Defective Windshield	1	0	1	0.53
Vehicle Modification	1	0	1	0.53
Road/Intersection Design	1	0	1	0.53
Roadside Hazard	1	0	1	0.53
Other	59	0	59	31.55
Unknown	23	0	23	12.30

Note: The figures shown above represent the contributing factors assigned to drivers, other than emergency vehicle drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total emergency vehicle casualty collisions recorded in British Columbia during 1998.

Table 18.05 – Contributing factors in taxi collisions – Taxi drivers factors only: By number of collisions

Contributing factors	Injury	Fatal	Total	% of Total Taxi Collisions
Driving Without Due Care	32	0	32	12.80
Failing to Yield Right of Way	31	0	31	12.40
Following too Closely	17	0	17	6.80
Weather Condition	14	0	14	5.60
Unsafe Speed	13	0	13	5.20
Ignoring Traffic Control Device	8	0	8	3.20
Backing Unsafely	4	0	4	1.60
Driving on Wrong Side of Road	4	0	4	1.60
Improper Turning	3	0	3	1.20
Avoiding veh/ped/cycle	3	0	3	1.20
Visibility Impaired	3	0	3	1.20
Driver Inexperience	2	0	2	0.80
Extreme Fatigue	2	0	2	0.80
Improper Passing	2	0	2	0.80
Defective Tires	2	0	2	0.80
Previous Traffic Collision	1	1	2	0.80
Cutting In	1	0	1	0.40
Drugs (Illegal)	1	0	1	0.40
Failing to Signal	1	0	1	0.40
Fell Asleep	1	0	1	0.40
Illness	1	0	1	0.40
Unconscious	1	0	1	0.40
Pedestrian Error/Confusion	1	0	1	0.40
Medication (Legal Drugs)	1	0	1	0.40
Defective Headlights	1	0	1	0.40
Sunlight Glare	1	0	1	0.40
Obstruction/Debris on Road	1	0	1	0.40
Road Maintenance/Construction	1	0	1	0.40
Other	65	0	65	26.00
Unknown	34	0	34	13.60

Note: The figures shown above represent the contributing factors assigned to the taxi drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total taxi casualty collisions recorded in British Columbia during 1998.

Table 18.06 – Contributing factors in taxi collisions – Other vehicle driver factors only: By number of collisions

Contributing factors	Injury	Fatal	Total	% of Total Taxi Collisions
Failing to Yield Right of Way	49	1	50	20.00
Driving Without Due Care	47	2	49	19.60
Alcohol Involvement	29	0	29	11.60
Ignoring Traffic Control Device	26	1	27	10.80
Following too Closely	18	0	18	7.20
Weather Condition	16	0	16	6.40
Unsafe Speed	14	0	14	5.60
Driver Inexperience	12	0	12	4.80
Pedestrian Error/Confusion	10	0	10	4.00
Improper Turning	9	0	9	3.60
Backing Unsafely	2	0	2	0.80
Driving on Wrong Side of Road	2	0	2	0.80
Avoiding veh/ped/cycle	1	1	2	0.80
Visibility Impaired	2	0	2	0.80
Previous Traffic Collision	2	0	2	0.80
Cutting In	1	0	1	0.40
Drugs (Illegal)	1	0	1	0.40
Defective Tires	1	0	1	0.40
Other	57	0	57	22.80
Unknown	33	0	33	13.20

Note: The figures shown above represent the contributing factors assigned to drivers, other than taxi drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total taxi casualty collisions recorded in British Columbia during 1998.

Table 18.07 – Contributing factors in school bus collisions – School bus driver factors only: By number of collisions*

Contributing factors	Injury	Fatal	Total	% of Total School Bus Collisions
Failing to Yield Right of Way	3	0	3	15.00
Driving Without Due Care	2	0	2	10.00
Weather Condition	1	1	2	10.00
Following too Closely	1	0	1	5.00
Unsafe Speed	1	0	1	5.00
Defective Brakes	1	0	1	5.00
Other	2	0	2	10.00
Unknown	2	0	2	10.00

* The figures shown above represent the contributing factors assigned to the school bus drivers involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total school bus casualty collisions recorded in British Columbia during 1998.

Table 18.08 – Contributing factors in school bus collisions – Other vehicle driver factors only: By number of collisions*

Contributing factors	Injury	Fatal	Total	% of Total School Bus Collisions
Driving Without Due Care	3	0	3	15.00
Driver Inexperience	2	0	2	10.00
Failing to Yield Right of Way	2	0	2	10.00
Improper Passing	1	0	1	5.00
Driving on Wrong Side of Road	1	0	1	5.00
Ignoring Traffic Control Device	3	0	3	15.00
Improper Turning	1	0	1	5.00
Unsafe Speed	1	0	1	5.00
Defective Brakes	1	0	1	5.00
Sunlight Glare	1	0	1	5.00
Weather Condition	2	0	2	10.00
Other	2	0	2	10.00
Unknown	2	0	2	10.00

* The figures shown above represent the contributing factors assigned to drivers, other than school bus drivers, involved in these collisions. "Collisions" represents the number of collisions in which the contributing factor was present, not the total number of occurrences of the contributing factor. Some double counting of collisions will occur in the data presented in this table. For example, a collision attributed to alcohol involvement and careless driving will be counted above as both an alcohol related collision, and a collision involving 'driving without due care'. "Percent of Total" represents the occurrence of the collisions as a percentage of total school bus casualty collisions recorded in British Columbia during 1998.

Table 18.09 – Emergency vehicle, taxis and school bus collisions by primary collision occurrence

Primary collision occurrence	Emergency Vehicle			Taxi			School Bus		
	Injury	Fatal	Total	Injury	Fatal	Total	Injury	Fatal	Total
Backing Up	4	0	4	4	0	4	0	0	0
Head On	7	0	7	12	1	13	2	0	2
Intersection - Right Angle	31	0	31	61	1	62	4	0	4
Left Turn - Head On	6	1	7	8	0	8	2	0	2
Left Turn - One Way	0	0	0	1	0	1	0	0	0
Left Turn-Across Oncoming Traffic	9	0	9	35	0	35	1	0	1
Off Road Left	10	0	10	3	0	3	0	0	0
Off Road Right	13	0	13	5	0	5	1	0	1
One Way Street	0	0	0	1	0	1	0	0	0
Overtaking	3	0	3	0	0	0	1	0	1
Rear End	49	0	49	60	1	61	3	0	3
Right Turn - Head On	4	0	4	2	0	2	0	0	0
Right Turn - Rear End	1	0	1	1	0	1	0	0	0
Right Turn - Same Direction	1	0	1	1	0	1	0	0	0
Side Swipe-Opposite Direction	6	1	7	3	0	3	2	0	2
Other	35	0	35	44	0	44	1	1	2
Unknown	8	0	8	8	0	8	2	0	2
Total	**185**	**2**	**187**	**247**	**3**	**250**	**19**	**1**	**20**